

**COLLEGE OF ARCHITECTURE
UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE
ARCH 4101 / 7103 – TOPICAL STUDIO**

FALL SEMESTER 2003

***Green Architecture and Urbanism: A Real-Life Sustainable
Community for the Carolinas***



INSTRUCTORS

Professors: David Walters and Chris Grech

PLACE

Storrs Architecture Building, under the auspices of the Charlotte Community Design Studio

CONTACT HOURS

9 hours per week, MWF: 2.00 – 5.00 p.m.

CREDIT HOURS

5/5G

PREREQUISITES

None

OFFICE HOURS

Prof. Walters By Appointment

Prof. Grech By Appointment

PREMISE

We should all live lightly on the land. Our responsibilities as architects and urban designers are especially important in the pursuit of ecologically sustainable urban forms and building design. Our society consumes land and energy far faster than any other culture in the world's history. When we've used the energy it's gone. It's non-renewable. When we've finished with the land, we often throw it away like some discarded commodity.

Architects have imagined eco-topias for generations. Very few have ever been built. This is different. This project looks to a brighter, energy efficient future, but it's based in the real world of development economics, site constraints and local clients. This is an opportunity to design a model community that will transform the way our profession, developers, elected officials and the general public think about the way we build our cities and towns, and how we live in them. It will redefine your thinking about the connections between the urban world we create and the natural world we inherit.

Public universities ought to contribute to the public good, not just in terms of turning out skilled and educated graduates, but by contributing meaningfully to the conversations and concerns of the community through the sharing of the faculty's expertise and the students' youthful insight. These concerns are urgent, for the Charlotte region's urban future hangs in the balance. As a counterpoint to placeless sprawl around the periphery this project can demonstrate higher and better goals and standards of design and development as an example to our expanding metropolis and the nation.

The role of all projects undertaken by the CCDS is to illuminate important issues like these, and to provide potential solutions to "real-life" urban design and town planning problems that can promote progress towards a sustainable urban future – a livable city.

OBJECTIVES

- To encourage students to consider the integration of sustainability issues at all levels from an urban scale down to a personal scale.
- To familiarize students with the basic techniques of urban analysis and principles of urban design.
- To introduce them to the interrelationships between urban form, building use and transportation.
- To incorporate strategies for better integrated and more sustainable and ecologically appropriate architecture and transportation systems.
- To familiarize students with the relationships between urban form and development economics.
- To encourage students to understand the mechanism of sustainability in architecture by considering the relationship between materials, structure, services, movement systems and building envelopes.
- To consider the role of the public and local stakeholders in civic design.
- To understand the importance of development design guidelines and zoning controls for implementing urban master plans and building designs.
- To learn how to produce professional architectural presentations.

CONTENT

This studio, in collaboration with architects, landscape architects and urban planners from Clemson University, has been presented with a unique “real life” opportunity to devise a an ecologically sensitive urban design master plan for an area of roughly 1700 acres along the Catawba River in York County, South Carolina, and to pursue architectural development of key building types, housing, offices, apartment etc. within that overall framework. Our primary client is the Culture & Heritage Foundation Inc., a part of the York County Culture and Heritage Commission. They control 400 acres as the gift of Hugh and Jane McColl (Hugh McColl is the retired CEO of Bank of America) and their primary concerns are the sustainable and ecologically sensitive development of this land. To this end they have already commissioned architect William McDonough to design the ecological Museum of Life and the Environment, to be built on the banks of the Catawba River within the 400 acre site. Other major property owners, including commercial developers Crosland and Crescent Resources who together own major portions of the area under consideration have indicated interest in this environmentally sensitive agenda. The task presented to this studio is to create a master plan for a self-sustaining, ecologically sensitive development and to extend these concerns into energy efficient building designs. The master plan and the building designs should manifest the principles of the Foundation and at the same time be commercially viable for the developers and other land owners.

METHOD

As the project will be a "real life" study, developed in conjunction with public and private bodies who have influence over aspects of the city's future, these organizations will be involved in the program development, design development and appraisal of the project. These organizations will also be asked to fund the operation of the studio, and thus take on some of the attributes of real professional clients.

The studio sequence will follow two simultaneous tracks: one will examine conventional patterns of urban design master planning, beginning with site analysis, precedent and typological studies, urban design development, and architectural solutions for key sites. The other track will follow a similar structure, however, it will concentrate on issues of sustainability, looking at choice of materials, embodied energy investment and emissions, sustainable building case studies and the integration of sustainable objectives in building form, services and envelopes.

Most work will be done in collaborative teams.

Development economic studies will form an integral part of the design process, so that urban design and architectural proposals will pay attention to real site values and development costs. The project will also engage important social issues, which will be addressed in relation to their specific impact on the various phases of design development.

A number of leaders in the field of sustainable development will be invited to advise students and review progress throughout the semester.

FIELD TRIP:

The studio will also offer a variety of study trips subsidized by funds from the client body. The most important trip will be to Europe to experience first hand a number of sustainable building projects and opportunities to visit the offices of and to talk to the designers (architects, landscape architects, consultants etc.) of these sustainable developments. It is anticipated that approximately \$500 will be available to each student.

EVALUATION

Assessment will be cumulative throughout the semester on a team basis.

Graduate students are expected to provide leadership throughout the semester, and will be responsible for preparing additional in-depth written case studies as directed by the studio instructors.

Grading of all assignments will be based on the quality and thoroughness of:

- (1) the analysis of content;
- (2) concept generation and exploration of alternatives;
- (3) design development;
- (4) presentation and craft; and
- (5) class participation.

The grading schedule will be as follows:

Undergraduate:

A Excellent
B Good
C Satisfactory
D Minimally Satisfactory
F Fail

Graduate:

A Excellent
B Satisfactory
C Minimally Satisfactory
U Unsatisfactory

ACADEMIC INTEGRITY

Within the context of collaborative work, all students are expected to be familiar with, and are required to comply with the UNC-Charlotte Code of Academic Integrity. Breaches of the Code will result in disciplinary action as set out in the Code.

BIBLIOGRAPHY

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Briegleb, Till, 2000. *High-rise RWE AG Essen*, Basel: Birkhauser.

Duffy, Frank, 1997, *The New Office*, London: Conran Octopus Ltd.

Gauzin-Muller, Dominique, 2002. *Sustainable architecture and urbanism*, Basel: Birkhauser.

Kelbaugh, Douglas, *Common Place: Towards Neighborhood and Regional Design*. Seattle: University of Washington Press, 1997.

Moughtin, Cliff, 1996. *Urban Design: Green Dimensions*, Oxford: The Architectural Press.

Porter, Douglas et al., 2000. *The Practice of Sustainable Development*, Washington, D.C.: Urban Land Institute.

Powell, Robert, 1999. *Rethinking the Skyscraper*, New York: Whitney Library of Design.

Randall Thomas (editor), 2003, *Sustainable Urbanism*, Spon Press, ISBN: 0-415-28123-7.