

GEODESIGN 842

Course Description

Geodesign Studio 1 focuses on landscape and regional issues in geodesign. For Spring 2016, we are taking on one of the large challenges of our age - climate change. Our studio focal area will be the State of Florida, which is not only one of the first areas to experience climate change, but also a major US contributor to emissions. Within this large state, each student will pick a watershed to use as a personal study area. Over the course of the term, we will compare and contrast challenges and solutions across these watersheds.

- In the first portion of the course, we will look at how "suitability" and "vulnerability" modeling in GIS can help define opportunities and constraints for regional design. In particular, we will look at siting criteria for transit-oriented development, and for green infrastructure.
- In the second portion of the course, we will make use of climate change scenarios for Florida, as well as urban growth projections. We will examine the demand for development, and for conservation, developing a "plan / trend" scenario for 2060.
- The third portion of the course is a regional design challenge, with the objective to "beat the trend." Specifically, we will use our earlier work to estimate the carbon emissions from transportation and buildings, and carbon sequestration capabilities of green infrastructure.
- The fourth and final component of the course is focused on reflective practice and design communication. Because most people don't think too much about regional planning, this is a major challenge. We will use a variety of visualization techniques to convey the key subjective and objective properties of our watershed plans.

Schedule

Module 1: Suitability

Session 1 - Course overview, introduction to study area and data sources

Session 2 - Suitability modeling in GIS

Session 3 - Transit-oriented development

Session 4 - Green infrastructure

Session 5 - Green Infrastructure part 2 and Conflict Analysis

Module 2: Plan/Trend Scenarios and Performance Metrics

Session 6 - Urban Growth Modeling

Session 7 - Climate Change vulnerability assessments

Module 3: Toward Better Futures

Session 8 - Design Challenge, Conceptual Design Approach

Session 9 - Conceptual Design Review

Session 10 - Desk Crits of Work Progress

Session 11 - Final Designs Due

Module 4: Reflective Practice

Session 12- Review of methods and representations

Session 13 - Review of strategies across study areas

Assignments and Grading

- There will be weekly assignments for Phases 1 & 2, and biweekly assignments in Phases 3 and 4.
- All weekly assignments will be equally-weighted, and biweekly assignments will receive a double weight. Grading criteria include quality and clarity of presentation, depth and applicability of research, and technical reasonableness of findings.

Readings

Required text: Steinitz, A Framework for Geodesign