LDEV-671: SUSTAINABLE PLANNING & DEVELOPMENT

Spring, 2011
Prerequisites: Graduate standing
Mon./Weds. 4:10 p.m.- 5:25 p.m.
Wisenbaker (WERC) 049/OCSB

Course Description

This course will cover a broad range of topics related to resiliency and sustainability in coastal areas. Readings and classroom discussions will examine a range of issues associated with understanding resiliency/sustainability from ecological, social, economic, organizational, planning, and built-environment perspectives. Specific topics will include: ecological disturbance, adaptive learning, sustainable enterprise, social vulnerability, natural hazards, climate change, development management, and ecological footprint analysis. The approach of the course will be problem-based, where students will have the opportunity to apply the principles of sustainability and resiliency to realistic problems, settings, and solutions. The content of the course will prepare students to address the interdisciplinary, complex problems associated with coastal sustainability and resiliency in their work and everyday lives.

Course Objectives

- To understand the principles of resiliency and sustainable development in coastal areas at and between a variety of scales and settings;
- To critically examine the challenges and opportunities to build, plan for, and direct sustainable/resilient communities;
- To apply the principles of resiliency and sustainable development to real-world problem domains;
- To develop individual student expertise on a topic related to sustainability/resiliency that will in turn enhance professional development and increase effectiveness in the workplace after graduation.

Course Requirements

The format for the course will be reading intensive and discussion based. Students will be expected to apply their own knowledge and specializations to solving specific sustainable planning and development problems from a variety of perspectives. Several problem papers will be assigned that ask students to apply the concepts presented throughout the course to actual planning and development situations. A final project will require students to identify, write about, and present to the class a sustainability/resiliency problem of their choice.
Specific course requirements are as follows:

1. Class participation: students will be expected to attend class regularly and contribute to class discussions that critically evaluate readings and case studies. Students will be expected to bring to discussions knowledge and expertise gained throughout their graduate program or work experience. **Grading 20%**.

2. Problem papers: two take-home problem papers will be assigned which require students to critically evaluate and solve problems associated with sustainable planning and development. **Grading 40%**.

3. Final project: students will be required to select a resiliency/sustainability problem within their area of interest and draft a final paper/plan/site plan/architectural design based on specific parameters. The project will be presented in class as well as submitted as a written document or drawing. Students may work individually or in groups. **Grading 40%**.

**Late papers will be downgraded 10% for each day they are turned in past due. Papers turned in after the assignment has been graded and returned to students will not receive credit.**

**Readings**

**Required Texts**


**Recommended Texts**


**Additional Resources**


http://www.resalliance.org/1.php

*Readings not contained in required texts will be available online at epsru.tamu.edu – courses – LDEV671 – Syllabus. You can access the readings as a pdf within the course syllabus document.*
INTRODUCTION AND OVERVIEW OF SUSTAINABILITY AND RESILIENCY

January 19

Introduction to course

January 24 – Definitions


January 26 – Sustainability and Resiliency Linkages


CASE STUDY – THE EVERGLADES ECOSYSTEM, FLORIDA

January 31


ECOLOGICAL RESILIENCE

February 2


Recommended


February 7 – Panarchy


*Guest Speaker: Bob Harris, Houston Advanced Research Center

February 9 – Panarchy (Cont.)


Recommended


CASE STUDY – CORAL REEFS

February 14


Recommended


February 16 – Human Systems


ORGANIZATIONS AND ADAPTIVE CAPACITY

February 21- Adaptive Management


February 23


February 28– Sustainable Enterprise


Hawken, P. 1993. The Ecology of Commerce. Ch1, pgs. 1-17; Ch. 4, pgs. 57-73.


March 2 – Sustainable Enterprise (Cont.)


### SOCIAL DIMENSIONS OF RESILIENCY

**March 7 - Social Vulnerability**


*Recommended*


*Guest Speaker: Walter Peacock, Director of the Hazard Reduction and Recovery Center*

**March 9 – Social Capital and Improving Equity**


**March 14 and 16 – Spring Break**

**March 21 – Measuring Resiliency and Sustainability**

Texas Sustainable Indicators Project, 2006, Skim.

Emmer et al. 2008. Coastal Resiliency Index: A Community Self-Assessment

NOAA CSC project Report (to be distributed)

**NATURAL HAZARDS AND RESILIENCY**

**March 23 – Natural Hazards Introduction**


**Recommended**


**March 28 – Acute Hazards**


**Guest speaker: Lori Swartz, Galveston Planning Dept.**

**March 30- Chronic Hazards**


Recommended


April 4- Chronic Hazards II- Climate Change


Recommended


**COMMUNITY PLANNING AND DEVELOPMENT**

April 6 – Planning for the worst


April 11 – Planning Tools and Techniques


April 13- Urban Form


**BUILDING, CONSTRUCTION, & GREEN ARCHITECTURE**

April 18 – Site Analysis


Bijan Khazai, Jane C. Ingram, David S. Saah. 2007. The Protective Role of Natural and Engineered Defence Systems in Coastal Hazards. Pgs. 3-5; 7-8; skim rest as interested.


*Guest speaker: Bill Merrell, TAMU-Galveston*

April 20 – Buildings and Architecture


*Recommended*


**HOUSEHOLD/INDIVIDUAL PREPAREDNESS**

April 25

- Calculate footprint on: [www.myfootprint.org](http://www.myfootprint.org)


HCFCD Family Flood Plan.


*Recommended*


April 27


*COURSE SUMMARY/CONCLUSION*

May 2


**Final Paper Due: On day of scheduled final exam.**

"The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an
accomodation, please contact the Department of Student Life, Services for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637."

In all aspects of this course, please adhere to the University Honor Code: "An Aggie does not lie, cheat, or steal or tolerate those who do."