Course Overview
This course provides a graduate-level introduction to natural hazards risk management planning, including climate change-induced hazards. Specific areas of study include the practice of planning and its application to hazard mitigation and disaster recovery. Emphasis is also placed on the connectivity between planning for natural hazards and disasters and climate change adaptation, emphasizing the principles of sustainability and disaster resilience. While the course is grounded in planning principles and practice, and involves the evaluation of plans, it is not limited to planning students. Rather, the course is intended for students that seek to gain a better understanding of how planning plays an important role in the larger issue of natural hazards risk management, including our ability to adapt to a changing climate and create more sustainable, disaster resilient communities.

Course Objectives
1) To identify and explore key planning principles and assess the degree to which they are applied in natural hazards risk management planning through the evaluation of the quality of hazard mitigation and disaster recovery plans at the federal, state, and local level;

2) To gain a sound understanding of natural hazards risk management as understood through the lenses of hazard mitigation and disaster recovery;

3) To explore the relationship between sustainability, disaster resilience, and climate change adaptation; and

4) To identify and assess different types of natural hazards risk management governance frameworks, including how existing policies and programs facilitate or hinder pre- and post-disaster planning and the creation of sustainable, disaster resilient communities that are able to better adapt to changing climactic conditions.
Course Format
This course will meet once per week. Class sessions include lectures (emphasizing applicable cases selected from across the United States and abroad) and discussion, oral presentations, and the review of plans by students. Invited speakers include nationally and internationally recognized scholars and practitioners in the field of natural hazards risk management and climate change adaptation. It is expected that students will come to each class prepared to actively participate in discussions led by the instructor, invited speakers, and students; lead class discussions as assigned; and present materials as part of group projects. Students are expected to work on group projects outside of class.

Student Evaluation
Plan quality evaluation exercises (2 group papers and presentations): 1/3 of total grade
Term paper (abstract and final paper): 1/3 of total grade
Class participation (class discussion, interaction with speakers and panelists): 1/3 of total grade

Assignments/Expectations
• Read required assignments and participate in class discussions, including those led by instructor, guest speakers, and students. As part of class lectures, students will be provided specific questions that they are expected to be prepared to discuss in the following class.
• Lead class discussion as assigned.
• Analyze hazard mitigation and disaster recovery plans (each person will work in a group to develop and participate in three presentations in class and write three papers [not to exceed 10 pages single spaced] summarizing your team’s findings – 1 hazard mitigation, 1 disaster recovery plan). Papers are due throughout the course as noted in the syllabus.
• Engage with speakers and panelists in interactive dialogues guided by key questions posed by invited guests.
• Each student will write a term paper at least 10 pages in length (single spaced). The paper should address a topic that is relevant to the class. Students will submit a 1-page abstract to the instructor on the date noted in the syllabus. The student is encouraged to meet with the instructor to discuss the nature of the paper prior to submitting the abstract. Paper is due at the end of the semester.

Reading List
The reading list contains required and recommended readings. Some materials may be skimmed as noted. Required reading materials (other than Smith 2011; Glavovic and Smith 2014) will be available in the course folder or as links in the body of the syllabus.

Textbooks:


Reports:

Florida Department of Community Affairs, Division of Community Planning. Post-Disaster Redevelopment Planning: A Guide for Florida Communities. (online copy provided)


Videos (shown as time permits):

Course Outline:
Topical Areas, Reading List, Speakers, Assignments, and Video Viewing Schedule

Session 1 (August 25): Course Introduction; Introduction to natural hazards risk management planning and climate change adaptation; Sustainability, disaster resilience, and climate change adaptation. Professor will skype from Australia. Speaker: John Handmer. Mr. Handmer leads RMIT’s Human Security Program. He is also Convener of the National Climate Change Adaptation Research Network for Emergency Management, and Principle Scientific Advisor for the Bushfire CRC. He holds adjunct professorial positions at ANU and the Flood Hazard Research Centre in London. He works on the social and economic aspects of emergency management and disasters.

Introduction: The first class will involve a review of the course and a discussion of the linkage between natural hazards risk management planning, climate change adaptation, and creating more sustainable and disaster resilient communities. Students will introduce themselves, to include a discussion of their major, academic interests, future aspirations, why they chose to take the course, and any personal experience with disasters. A case study will be presented that addresses many of the topics discussed throughout the class. Professor Handmer will discuss his work surrounding wildfire risk in the Melbourne, Australia area. His analysis includes climate change and the role of planning in disaster risk reduction.
**Required reading:**

**Journal Articles:**


**Newspaper Articles:**


**September 1: NO CLASS** (this will give you time to read the materials for the following class)

**Session 2 (September 8): Natural hazards risk management and climate change adaptation; sustainability, disaster resilience, and climate change adaptation**

**Required reading:**


**Sustainability, disaster resilience, and climate change adaptation**
Required reading:


The role of planning in natural hazards risk management

Session 3 (September 15): Introduction to planning and plan quality analysis; planning and natural hazards risk management

Required reading:


Recommended reading:


Assignment: Term Paper Abstracts Due

Hazard mitigation
Session 4 (September 22 or 23): Hazard mitigation issues, concepts, policies, and programs; hazard mitigation planning; linkage to climate change adaptation; review of plan quality analysis tool. Field Trip to Charlotte Mecklenburg County North Carolina if this can be arranged with student schedules and staff in Mecklenburg County. The field trip will explore the cutting-edge work undertaken by Mecklenburg County Stormwater Services to reduce flood losses in their communities. Specific features observed and discussed include their use of stormwater services fees to fund hazard mitigation measures, the development of “future conditions” flood hazard mapping (and the planning process by which this was adopted), the acquisition and relocation of flood-prone properties, and the multi-objective planning process that enabled the creation of greenways, abatement of point source pollution, and reduction of future flood losses.

Required reading:


Note: We will discuss the local hazard mitigation plan quality analysis tool during our drive to Charlotte. Review the tool and be prepared to discuss as you will be using the tool as part of your team’s evaluation of hazard mitigation plans in class session #6. On the drive back to Chapel Hill we will discuss what we observed in the context of assigned class readings.

Session 5 (September 29): State and local hazard mitigation plan evaluation presentations (group papers due the following week—not to exceed 10 single-spaced pages in length).

Student teams will present the results of their evaluation of local hazard mitigation plans (from pre-existing plan inventory found in class folder) using plan quality principles developed by Berke, Smith, and Lyles. Student teams are expected to present their findings in a PowerPoint to include: 1) general strengths and weaknesses, 2) an assessment of all plan quality principles, and 3) recommendations for plan improvements. The presentation should draw on class readings and group research.

The group paper should follow a similar theme and describe general strengths and weaknesses, provide an assessment of all plan quality principles, and make recommendations for plan improvements based on class lectures, readings, and group research. The instructor and invited guest speakers, Darrin Punchard will provide feedback following each presentation.

Guest Speaker/Expert Feedback:
Darrin Punchard, AICP, CFM. Principal. Punchard Consulting. Darrin will discuss his experiences assisting FEMA develop national hazard mitigation policy, as well as state and local hazard mitigation plans across the country as a state employee and private sector consultant. Darrin will also discuss careers in the field as well as personal lessons for job seekers.

Required Reading:

Disaster recovery

Session 6 (October 6): Disaster recovery issues, concepts, policies, and programs; planning for post-disaster recovery. Students should be prepared to engage in a conversation with Bruce Glavovic, Professor Massey University, New Zealand. Following Dr. Glavovic’s presentation, we will discuss similarities and differences between the United States (as described in the assigned readings) and New Zealand.

Speaker: Bruce Glavovic, Professor, Massey University, New Zealand. Dr. Glavovic will discuss disaster recovery, including a comparative discussion of the Katrina and Christchurch Earthquake disasters.

Assignment: Hazard Mitigation Plan Group Papers Due

Required reading:

Draft Waimakariri, New Zealand Residential Red Zone Recovery Plan. Waimakariri District Council. August 2016. (skim; plan will be reviewed by a team(s) later in semester)

Recommended Reading:

Session 8 (October 13): Disaster recovery issues, concepts, policies, and programs; linkage to climate change adaptation; planning for post-disaster recovery (continued). Lecture followed by discussion of plan quality analysis tools.

Required reading:

Local Disaster Recovery Plan Quality Analysis Tool (Berke and Horney 2013).

Note: We will discuss the Local Disaster Recovery Plan Quality Analysis Tool in class.
Students should review the tool and be prepared to discuss in class as you will be using it as part of your team’s evaluation of disaster recovery plans in class session #10. We will also view and discuss the video Role of States in Disaster Recovery to include its connectivity to topics discussed to date.

Recommended reading:

Florida Department of Community Affairs, Division of Community Planning. Post-Disaster Redevelopment Planning: A Guide for Florida Communities. Note: The guide may prove useful as you evaluate local disaster recovery plans.

October 20 – NO CLASS (FALL BREAK)


Required reading:


Recommended reading:


Session 10 (November 3): Local Disaster Recovery Plan Quality Analysis Presentations (10-page group papers due the following week). Participant/speaker: Matt Campbell, National Coordinator, Community Recovery Planning and Capacity Building Recovery Support Function at FEMA. Matt will comment on class presentations and discuss the role of FEMA in planning for post-disaster recovery.

Student teams will present the results of their evaluation of a local disaster recovery plan (students should choose from list of available plans in class folder) using plan quality principles developed by Berke and Horney and amended by Smith (Local Recovery Plan). Students are expected to present their findings in a PowerPoint to include: 1) general strengths and weaknesses, 2) an assessment of all plan quality principles, and 3) recommendations for plan improvements. The presentation should draw on class readings and group research. The group paper should follow a similar theme and describe general strengths and weaknesses, provide an assessment of all plan quality principles, and make recommendations for plan improvements based on class lectures, readings, and group observations. The instructor and Matt Campbell will provide feedback following each presentation.

Required reading: none
Session 11 (November 10): Jeff Carney, Director of LSU Coastal Sustainability Studio, Associate Professor School of Architecture at Louisiana State University. Carney’s work in Louisiana has centered on trans-disciplinary efforts to plan and design in the dynamic Gulf Coast environment. Jeff will discuss his design-centered work in Louisiana, including his efforts to address risk reduction and climate change adaptation through the Coastal Sustainability Studio and its associated Mayor’s Institute for Community Design. Jeff will also discuss his work as it relates to the 2016 summer flood disaster in Baton Rouge, Louisiana and the surrounding area.

Required reading:


Session 12 (November 17): Where are We Now? The State of Practice in Natural Hazards Risk Management and Climate Change Adaptation. Guest Speaker: Margaret Davidson is the NOAA Senior Leader for Coastal Inundation and Resilience. Before joining NOAA, Margaret was executive director of the South Carolina Sea Grant Consortium from 1983 to 1995. She also served as special counsel and assistant attorney general for the Louisiana Department of Justice.

Margaret will address the state of practice in the US regarding the linkage between natural hazards planning and climate change adaptation. Specific areas of discussion will include the issues and challenges associated with linking natural hazards risk management (hazard mitigation and disaster recovery) and climate change adaptation, offer her opinion of the future, and suggest policy recommendations and actions that federal and state governments and communities can take to address these concerns. Margaret will also discuss how these insights can inform students pursuing a career in this area.

Required reading:


Recommended reading:


Note: We will discuss the climate change adaptation dialogue to be held on December 1st.

November 24: NO CLASS - THANKSGIVING BREAK

Session 13 (December 1): In-class dialogue on state and local climate change adaptation planning.
Invited panelists will give brief presentations posing what they believe are the key challenges and opportunities facing communities regarding planning for climate change adaptation. Following these presentations students are expected to pose questions to the panelists based on what they have learned in class and in response to the challenges posited by the panelists. Students are also expected to propose possible solutions to the key challenges discussed.

*Required reading:*


**Panelists:** Scott Shuford, Planning Director-City of Fayetteville and author of Planning for a New Energy and Climate Future, American Planning Association Press; and Sierra Woodruff, Doctoral Candidate, University of North Carolina at Chapel Hill, Curriculum for the Environment and Ecology, U.S. Department of Homeland Security/White House Climate Change Fellow.

**Term Paper**

Students are required to write a term paper (not to exceed 10 pages in length-single spaced). Papers should present a clearly articulated issue/problem linked to the existing literature followed by your own observations about the topical area and a set of well-crafted policy recommendations intended to address the problems identified.

The paper should include the following sections: 1) an introduction to your chosen topic, including why it is important/significant; 2) a review of the literature; 3) a discussion of your observations/findings; 4) policy recommendations addressing identified issues/problems; 5) conclusion; and 6) references.
LOCAL and REGIONAL PLAN SELECTION LIST

Hazard Mitigation Plans

Local:
1) City of Baltimore Combined Hazard Mitigation & Climate Adaptation Plan:
   http://www.baltimoresustainability.org/plans/disaster-preparedness-plan/.
2) Somerset County, New Jersey All-Hazard Mitigation Plan. 2013.:
6) Chesapeake, Virginia Hazard Mitigation Plan. 2014.

Disaster Recovery Plans

Local:
6) Brighton Beach, Coney Island, Manhattan Beach, and Sea Gate NY Rising Community Reconstruction Plan. March 2014.