

## **Course No. 4695 (NRE Special Topics): Climate Resilience and Adaptation: Municipal Policy and Planning**

**Semester:** Fall 2017

**Credits:** 3 credits

**Time:** Tuesdays and Thursdays 3:30pm – 5:00pm

**Location:** tbd

### **Course Description**

NRE 4695 is an interdisciplinary study of climate change focusing on the local, municipal scale. Climate impacts, policy, vulnerability and adaptation will be examined, with emphasis on tools such as vulnerability assessments that help local communities determine priorities for adaptation efforts. This course is being developed and offered as part of the new UConn Climate Corps, an initiative funded by the Provost Office's Academic Plan grant program.

**Recommended Preparation:** NRE 1000 Environmental Science

**Instructors:** Juliana Barrett and Bruce Hyde, Department of Extension, with lectures from faculty from Geography, NRE, Civil and Environmental Engineering, and other departments.

**Contact:** Juliana Barrett, [juliana.barrett@uconn.edu](mailto:juliana.barrett@uconn.edu)

**Expectations:** Everyone is encouraged to attend all classes as any material presented in class may be on the exam. Writing assignments will have a direct connection to class material and discussions.

**Enrollment:** restricted to 40 students.

**Course Goals:** Students will develop the ability to assess and analyze how large-scale environmental problems “translate” to the local level, specifically the world of local land use planning. Students will also be introduced to specific skills in mapping and landscape/municipal assessment that will better prepare them for the work force.

### **Learning objectives:**

- Analyze and assess climate change impacts at a regional, state and municipal scale
- Understand climate policy and programs at the federal, state and local levels

- Analyze and assess the relationship of land use to environmental health, and the land use decision making process in the region and the state
- Ability to conduct a vulnerability assessment. This will include the use of maps, imagery, and land use information
- Analyze climate related problems at the local level from interdisciplinary perspectives
- Gain an understanding and knowledge of how local government functions and how decisions are made.

**Assessments:**

Midterm Exam	25%
Final Exam	25%
Quizzes	20%
Discussion Participation	15%
Short writing assignments (1 -2 pages)	15%

**Grading Scale:**

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

## **Draft Syllabus**

### **Section 1: Climate change issues & trends, from global to local**

#### Week 1:

- Introduction to class, topic and instructors. Second semester: practicum
- Natural and human induced climate changes in the context of the Anthropocene
- Terminology: mitigation, adaptation, resilience etc.

#### Week 2:

- Climate change trends (global, regional and Long Island Sound scale)
- Priority indicators for New England (air temp, water temp, precipitation, sea level rise, pH, etc.)

#### Week 3:

- Climate Change Impacts; Impacts and Scale/Location – global to local (Connecticut)

#### Week 4:

- Sea level rise trends and ecological/economic impacts (National to Local scale)
- Increased frequency of nuisance flooding due to SLR during high tides/adaptation alternatives (road/home elevating)

#### Week 5:

- Precipitation, stormwater and flooding (national to local scale);
- Combining SLR and precipitation;
- LID campus tour

### **Section 2: Climate change policy and economics**

#### Week 6:

- Status of countries, U.S. states in adapting to climate change
- Linking Climate Science with Climate Policy: the reality of adaptation decisions
- Coastal Storm/Flood Disaster and Emergency Preparedness; Hazard Mitigation Plans; FEMA, NFIP, CRS, alternatives to rebuilding; National to local levels

#### Week 7:

- Health and human welfare,
- Environmental justice
- Legal aspects of climate change (focus on local scale/Connecticut);

Week 8:

- Climate policy: Roles/responsibilities at federal, state and local levels. The world of local governance in Connecticut, and the major players in the CT Climate scene
- Municipal Planning – how it works in New England states and specifically in Connecticut; economics of climate change

Week 9:

- Climate Adaptation in Connecticut
- Ethics and climate adaptation policy and decisions;

Week 10:

- CT ECO/geospatial data use; lidar, etc; Online and paper map reading skills

Week 11:

- Why is climate adaptation taking a back seat? (Role play exercise will be a part of several classes.)

Week 12-13:

- Vulnerability assessments (What are they and how to do an assessment?)

Week 14:

- Putting it all together/How the Climate Corps will assist towns/Introduction to the pilot communities for Spring 2018