Lecture Schedule for: Climate Resilience and Adaptation:
Municipal Policy and Planning
ENVE, ENVS, EVST 3100
Fall 2019

Section 1: Climate Change Issues and Trends, From Global to Local
Class Time: 3:30 to 4:45pm
Location: Floriculture Classroom

Required Book: *High Tide on Main Street: Rising Sea Level and The Coming Coastal Crisis* by John Englander

Special Assignments:
- Attend a local municipal meeting and write a 3 page, double spaced paper on the issue(s), what was discussed, the outcome (if any) and your impressions of the meeting (Due Oct 29, 2019)
- Role Playing Exercise
- Cost of Sea Level Rise Exercise

Note: When an assignment includes a paper, it should be typed using Times New Roman 12 point font

Instructors:
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Course Description: Climate change is impacting every aspect of the world around us from rising seas to changing precipitation patterns. This class will be an interdisciplinary study of climate change focusing on the local, municipal scale: impacts, policy, vulnerability and adaptation. We will examine strategies such as vulnerability assessments that help local communities determine priorities for adaptation efforts, and we will discuss what those efforts might entail, as well as roadblocks to moving forward.

Course 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.

**Week 1 Aug 27/29 2019**

**READINGS for Week 1:**

**Anthropocene:**
- Anthropocene story map
  [https://story.maps.arcgis.com/apps/MapJournal/index.html?appid=d14f53dcaf7b4542a8c9110eeabcf1c](https://story.maps.arcgis.com/apps/MapJournal/index.html?appid=d14f53dcaf7b4542a8c9110eeabcf1c)
  Produced by ESRI in collaboration with the Smithsonian Institution. Created September 8, 2014.

**Visualizing climate change:**
- Earth Temperature Timeline (take it in, scroll slowly) ([https://xkcd.com/1732/](https://xkcd.com/1732/)) From xkcd

- U.S. Global Change Research Program.
  [https://www.globalchange.gov/browse/indicators/catalog](https://www.globalchange.gov/browse/indicators/catalog)
  Explore climate change indicators on this website.

**For Reference:**
Terminology: U.S. EPA Glossary of Climate Change Terms [Climate Change Glossary](https://www3.epa.gov/climatechange/glossary.html#area)

Yale Climate Connections (current news article on climate change related mitigation and adaptation): [https://www.yaleclimateconnections.org](https://www.yaleclimateconnections.org)

**Week 1 (Aug 27, 2019) Instructor Barrett/Hyde**
- Introduction to class, topics and instructors
- Description of goals and objectives for course
- Description of spring semester independent study
- Exam and schedule, written assignments including attending municipal meeting
- Description of cost of sea level rise and role playing exercises
- Description of reading assignments
- In class Exercise
- Terminology: mitigation, adaptation, resilience, etc.
- Natural and human induced climate changes in the context of the Anthropocene

**Week 1 (Aug 29, 2019) Instructor Barrett**
- Priority climate indicators for New England (air temp, water temp, precipitation, sea level rise, pH, etc.)
- Climate change trends
Assignment for Week 1 Due 9/03/19: Find a current news article on climate change. Provide article title/author/source. Summarize the article in a couple of sentences and specify the applicable climate indicators (from US Global Change Research Program website). Come up with 3 to 5 questions that this article leads you to ask. (2 pages, double spaced)

**Week 2 September 3/5**  
Readings for Week 2  
Climate change impacts

  [https://nca2018.globalchange.gov/chapter/18/](https://nca2018.globalchange.gov/chapter/18/)

- **OPTIONAL/REFERENCE READING**


Week 2 Sept 3, 2019 Instructor Hyde
- Climate change impacts

Week 2 Sept 5, 2019 Instructor Hyde
- Climate change impacts (continued)
- Role Playing Exercise – explain and pick roles

Assignment for Week 2 Due 09/10/19
Draft background and information for your character and position for the role playing exercise. This will be refined over the course of the semester. No written assignment for 9/10 – ask questions as they arise.
Be prepared to provide a one minute introduction of your character/position on September 12.

Week 3 September 10/12
Readings for Week 3
- *High Tide On Main Street: Rising Sea Level and the Coming Coastal Crisis* by John Englander
  Read Chapters 1-10 (pages 3-101)

References/Optional Reading

Visualizing sea level rise:
- (NASA) https://sealevel.nasa.gov/multimedia:
  Go to “Rising Seas, by Decade” and Sea Level Rise Accelerates Over Time”
  - National Climate Assessment (2014) chapter on sea level rise

Week 3 Sept 10, 2019 Instructor Barrett
- Sea level rise trends and ecological/infrastructure impacts

Week 3 Sept 12, 2019 Instructor Barrett/Hyde
- Sea level rise (continued); environmental solutions (Gray to Green Continuum)
- Sea level rise viewers
- Role Playing Exercise Discussion – everyone will have one minute to introduce their role playing character and position. (consider forming alliances!)

Assignment for Week 3 Due 09/17/19
Find a current news article pertaining to sea level rise in the United States. Provide article title/author/source. Summarize the article in a paragraph. Explain in detail the impacts of
sea level rise. Discuss potential management options and your opinions on different adaptation strategies. Come up with 3 to 5 questions that this article leads you to ask. Write a 2 page, double spaced paper for this assignment.

**Week 4 September 17/19**
Readings for Week 4
*High Tide On Main Street: Rising Sea Level and the Coming Coastal Crisis* by John Englander
Read Chapters 11-17 (pp 105-194)

**AND**

Health and Climate Change:
- Read the online chapter summaries for the assessment reference below at: [https://health2016.globalchange.gov/](https://health2016.globalchange.gov/)

Optional Readings


**Week 4 Sept 17, 2019 Instructor Hyde**
- Responses to sea level rise (economic, political, social)
- Municipal responses to climate change challenges
- Response to sea level rise—retreat or defend.

**Week 4 Sept 19, 2019 Instructor Barrett**
- Environmental Health and Climate Change
- Cost of Sea Level Rise Assignment: Discussion/Rubric

Assignment for Week 4: Cost of Sea Level Rise Assignment: get together with your team and review the rubric. What first 3 steps will you take for this assignment? Type up steps with all team members names and hand in one write up per team. Due Sept 24, 2019
SECTION 2: Linking Climate Change Impacts to Policy

Week 5 September 24/26

Readings for Week 5

Land Use


- Wilson, E., C. Arnold, J. Volin. Connecticut’s Changing Landscape Story Map. UConn CLEAR. Connecticut’s Changing Landscape Story Map

Flooding:


Week 5 Sept 24, 2019 Instructors Arnold, Dietz

Land use trends and climate implications

- Connecticut’s Changing Landscape results, stormwater, carbon sequestration, heat islands

- Precipitation, stormwater and flooding (National to local scale)

Week 5 Sept 26, 2019 Instructors Dietz, Arnold

- LID campus tour with a climate change focus

Assignment for Week 5: Role Playing Exercise Character Development Assignment (2 pages, double spaced) due 10/01/19

Week 6 October 1/3

Week 6 Readings

Cloudy with a Chance of Meatballs (https://www.youtube.com/watch?v=Kl-0nlfNHA)

OPTIONAL READINGS:

Week 6 Oct 1, 2019 Instructor Boyer
- Climate policy: Roles/responsibilities at federal, state and local levels
- Politics of climate adaptation in Connecticut and the major players in the CT climate scene

Week 6 Oct 3, 2019
Cloudy with a Chance of Meatballs (https://www.youtube.com/watch?v=Kl-0nlfNHA)
Class Discussion on video
PLEASE watch video BEFORE class on Oct 8.
Time to work on cost of SLR project

Hand out Midterm Review Sheet

Assignment: Prepare for Midterm Exam on Oct 10, 2018

Week 7 October 8/10

Readings for Week 7

Ethics and Climate Change

Week 7 Oct 8, 2018 Instructor Kirchhoff
- Ethics and climate change; ethical implications of adaptation policy
- Students as “boundary spanners”

Time for questions for Midterm Exam

Week 7 Oct 10, 2019
Midterm Exam

Assignment for Week 7: Work on Cost of Sea level Rise Project

Week 8 October 15/17

Readings for Week 8

Week 8 Oct 15, 2019 Instructor Hyde
- Land Use Planning in Connecticut
- Local Plans and Programs related to climate change, disaster preparedness (Natural Hazard Mitigation Plans; FEMA, NFIP, CRS)

Week 8 Oct 17, 2019 Instructor Hyde
- Land Use Planning, continued (climate migration/gentrification/real estate impacts)
- How the Climate Corps will assist towns (projects from previous students)
- Introduction to the pilot communities for Spring 2020
- Cost of Sea Level Rise project check-in – break into groups and discuss project and any issues; class discussion

Assignment for Week 8: Work on Cost of Sea level Rise Project; Status report due 10/22/19

Week 9 October 22/24

Week 9 Readings

OPTIONAL READINGS
Connecticut Legal Fact sheets:
- Takings and Coastal Management Takings fact sheet_FINALkb.pdf
- Property and Permitting Boundaries at the Shorelines Beach Nourishment and Property Lines fact sheet_FINALkb.pdf
- Flood and Erosion Control Structures Flood and Erosion Control Fact Sheet_FINALkb.pdf

Week 9 Oct 22, 2019 Instructor Attorney Marjorie Shansky
- Legal aspects of climate adaptation in Connecticut

Week 9 Oct 24, 2019 –Instructor Hyde to facilitate Connecticut Municipal Panel

Assignment for Week 9:
Attend a local municipal meeting and write a 2 page, double spaced paper on the issue, what was discussed, the outcome (if any) and your impressions of the meeting Due Oct 29, 2019

Week 10 October 29/31

Week 10 Readings
  http://climatecommunication.yale.edu/publications/coastal-ct-hurricane-segments/


**Week 10** Oct 29, 2019 Instructor Diane Ifkovic
NFIP/Flood Maps

**Week 10** Oct 31, 2019 Instructor Balcom
• Coastal Storm/Flood Disaster and Emergency Preparedness (Coastal Storm Awareness Program)

Assignment for Week 10
Write two page, double spaced essay on: What were your reactions and take-aways from Week 10 lectures? What are your thoughts on hurricanes and evacuation? Under what circumstances would you evacuate or not evacuate your residence? Due 11/05/19

**Week 11** November 5/7
Readings for Week 11:

Please read through the following 2 documents; one is the Natural Hazard Mitigation Plan for Old Lyme, CT and the other is the Coastal Resilience Report that was recently developed for Stonington, CT


• Town of Stonington, CT Coastal Resilience Report, August 2017 pdf (https://www.documentcloud.org/documents/5113638-Stonington-Final-Coastal-Resilience-Plan-9-7-17.html)

• Read through the five steps to resilience: NOAA’s Climate Change and Extreme Weather Vulnerability Framework:
  https://toolkit.climate.gov/steps-to-resilience/explore-hazards

**Week 11** Nov 5, 2019 Instructor Hyde/Barrett
• Sustainable CT
• Community Rating System
• MS4
• Role Playing exercise – class time for character development and discussion
• Cost of Sea Level Rise Exercise – class time for discussion

**Week 11** Nov 7, 2019 Instructor Hyde/Barrett

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

Assignment for Week 11: Role playing exercise: Write a 3 page, double spaced paper on your character’s position for role playing exercise for those testifying explaining why you are taking this position. Research background information for your position. Due 11/12/19

**Week 12 November 12/14**

**Week 12** Nov 12, 2019 Instructor Hyde/Barrett

- Role playing exercise

**Week 12** Nov 14, 2019 Instructor Hyde/Barrett

- Role playing exercise

Assignment for Week 12: Role playing exercise: Write a 3 page, double spaced paper/article for role playing exercise for press and town council members. Research background information for your position. Due Nov 19, 2019

**Week 13 November 19/21**

**Week 13** Nov 19, 2019 Instructor Hyde/Barrett

- Role playing exercise and roundtable debrief

**Week 13** Nov 21, 2019
Paul Gagnon (UConn Center for Career Development) – Consulting 101/Career counseling
Class time to work on cost of SLR project
Assignment for Week 13: Work on Cost of Sea Level Rise project
Group presentations and papers on Cost of Sea Level Rise project due at Final Exam time

THANKSGIVING BREAK

**Week 14 December 3/5**

Week 14 Dec 3, 2019 Instructor Hyde/Barrett
• Group Presentations on Cost of Sea Level Rise project

Week 14 Dec 5, 2019 Instructor Hyde/Barrett
• Group Presentations on Cost of Sea Level Rise project

Group papers on Cost of Sea Level Rise project due at Final Exam time

SYLLABUS SUBJECT TO CHANGE
GRADING POLICY

Assessments:
Midterm Exam (in class) 20%
Cost of Sea Level Rise Exercise 25%
Writing assignments* 50%
Discussion Participation 5%

TOTAL 100%

*Writing Assignments include:
1) Town Meeting write up (20 points)
2) Role playing character development paper (20 points)
3) Role playing public hearing paper/article (30 points)
4) Mini writing assignments (10 points each)

≥ 92% A
89 – 91.9 A-
86 – 88.9 B+
82 – 86.9 B
79 – 81.9 B-
76 – 78.9 C+
72 – 75.9 C
69 – 71.9 C-
66 – 68.9 D+
62 – 65.9 D
59 – 61.9 D-
≤ 59 F

Please see https://provost.uconn.edu/faculty-and-staff-resources/syllabi-references/ for References pertaining to the Syllabus including:

- Absences from Final Examinations
- Class Attendance
- Credit Hour
- People with Disabilities, Policy Statement
- Discrimination, Harassment and Related Interpersonal Violence, Policy Against
- The Student Code
- Academic Misconduct Procedures for Instructors