

# PHP- 1730 Syllabus

## Climate Risks and Health Solutions

Fall 2023

**Instructor:** Ellen Tohn

**Contact Information:** [ellen\\_tohn@brown.edu](mailto:ellen_tohn@brown.edu)

**Office Hours:** Please schedule a time to meet with me via Zoom or in person via my [calendar](#).

**Teaching Assistant:** TBD

**Contact Information:** TBD

### General Information

**Meeting Times:** Tuesday 4:00 – 6:30 pm

**Classroom:** Room 331 at School of Public Health, 121 Main Street Providence RI 02912

**Canvas URL:** <https://canvas.brown.edu/>

**Prerequisites:** PHP 320 Introduction to Public and PHP 850 Fundamentals of Epidemiology

### Course Description

Climate risks are no longer theoretical. This course provides students with a broad overview of the health consequences of climate change resulting from changing temperatures, extreme weather, fires, air pollution, and water quality. The course will introduce students to practical solutions that both reduce greenhouse gas emissions and improve human health. These solutions include energy efficiency and decarbonization in buildings, electrifying transportation, changing food production, and engagement with healthcare organizations. Students will be exposed to a range of practitioners working to implement solutions in a variety of sectors. They will gain practical skills needed to support the development of regulations, policies, and programs. Assignments will give students experience developing written materials and practicing oral skills to engage in climate policy work. Note that enrollment is limited to 20 students.

### Domains

The School of Public Health's accrediting body, the Council on Education for Public Health (CEPH), specifies the domains in which all undergraduates in accredited programs are to receive instruction. The Brown SPH faculty designate the courses in which each domain will be introduced and those in which each will be covered in more depth.

As an Environmental Health and Policy course, this class will introduce the following public health domains designated as I below and cover those designated as C.

I or C	Domain	Teaching Activity
I	SOCIETAL FUNCTIONS OF PUBLIC HEALTH	Lectures week 1,5, 6, 7, 8, 9, 11 Exercise week 5
I	EVIDENCE-BASED APPROACHES	Lectures week 1, 2, 7, 8, 9, 11 Assignment #2
I	INTRODUCTION TO PROCESSES & APPROACHES TO IDENTIFY NEEDS & CONCERNS OF POPULATIONS	Lectures week 1, 2, 3, 4 Blogpost
I	INTRODUCTION TO APPROACHES & INTERVENTIONS TO ADDRESS NEEDS & CONCERNS OF POPULATIONS	Lectures week 6,7, 8, 9, 11 Assignment #2
I	SCIENCE OF HUMAN HEALTH & DISEASE	Lectures 1, 2, 3, 4
I	SOCIO-ECONOMIC IMPACTS ON HUMAN HEALTH & HEALTH DISPARITIES –	Lecture 4 Blogpost
I	GOVERNMENTAL AGENCY ROLES IN HEALTH CARE & PUBLIC HEALTH POLICY	Lectures 5, 6, 7, 8, 9, 11 Assignments #1 & #2
C	BIOLOGICAL FACTORS IMPACTS ON HUMAN HEALTH & HEALTH DISPARITIES	Lectures 1, 2, 3, 4 Assignment #2 Blogpost
C	ENVIRONMENTAL FACTORS IMPACTS ON HUMAN HEALTH & HEALTH DISPARITIES	Lectures 1, 2, 3, 4, 6, 7, 8 Assignments #1 and #2 Blogpost

#### Course Learning Outcomes

Course Learning Outcome	Assessment Activity
By the end of this course, students should be able to do the following:	Students' proficiency in this competency will be assessed as follows:
1. Identify at least four health consequences of our changing climate and health disparities linked to climate change	Written reading responses. Blogpost. Assignment #2
2. Describe climate solutions that also improve human health	Written reading responses Assignments #1 and #2

3. Prepare written and oral comments on proposed rulemakings or policy proposal	Assignments #1: Written comments on proposed rulemaking and class presentation of oral testimony.
4. Develop briefing packages to provide policy makers an overview of climate risks and health focused solutions.	Assignment #2: Slide deck and class presentation on climate solutions addressing health risks.

### Course Materials

Course materials are listed in the course calendar. All materials are available online at no cost.

### Expectations of Students

#### Time Commitment

Over 14 weeks, students will spend 2.5 hours per week in class (32.5 hours total). Required reading and homework is expected to take approximately 7 hours per week (77 hours, 11 weeks excluding final 2 weeks of presentations). Students will be required to complete two assignments, each anticipated to require 40 hours/assignment (80 hours). In sum, students should plan to devote approximately 189.5 hours to this course.

#### Class Format

The course objectives will be achieved through a combination of didactic lectures, class discussions, oral summaries of assigned readings, written assignments, and self-guided student learning culminating in oral presentations. This format requires that students actively and vigorously participate in all class activities. Thus, students should be punctual, attend all class sessions, read all the assigned material prior to class, and contribute to each session. Late assignments will not be accepted except by prior arrangement.

#### Academic Integrity

Plagiarism will not be tolerated in this course. Plagiarism occurs when you deliberately use someone else's language, ideas, or other original material without acknowledging its source. Plagiarism also includes submitting an assignment written by someone else or online AI (e.g., CHAT GPT) or working with other students if the assignment does not specifically give you permission to work with others. The assignments for this course should be the work of the individual student without assistance from anyone else, with the exception of group assignments. For additional information about offenses against the academic code, please see the [Academic & Student Conduct Codes](#). All situations of suspected academic dishonesty will be handled in the manner described in the Academic & Student Conduct Codes.

[AMA Citation Resource](#)

### Grading

Commented [et1]: Jill any ideas on how to handle chat GPT

The following shows how your course grade will be calculated and indicates when tests are scheduled and assignments due.

Graded Activity	% of Final Grade	Due Date
<b>Class Participation</b> Evaluation will be based on attendance and participation in class discussions/activities. Students are expected to come to class prepared to share their thoughts, questions, and comments with the rest of the class. Students will be judged on the quality of their contribution to the classroom environment rather than the quantity of their comments.	10%	Ongoing
<b>Written Reading Responses.</b> Students will prepare 3 short weekly reading response (< 1 page), in weeks 2, 3 and 4, using prompts provided by the Professor.	10%	Weeks #2, 3, 4: Responses are due on the Monday night before class by 11:59 pm. Sept. 19, Sept 26, Oct 3
<b>Blogpost:</b> Create 1 blogpost on health disparities related to climate risks, topics covered in weeks 2 – 5.	10%	Week #6: October 17, 2023
<b>Assignment #1: Written and oral comments on rulemaking or policy.</b> Students will prepare written comments and deliver oral testimony in class on a proposed rule, policy, or program.	40% (35% written testimony, 5% oral testimony)	Week #10: Nov. 11, 2023
<b>Assignment #2: Briefing slide deck.</b> Students will prepare a briefing slide deck for the governor, mayor, or school superintendent that responds to a prompt provided by the Professor (e.g., How can climate solutions address asthma risks in our state or city? What can I do as a Superintendent to mitigate climate risks and improve student outcomes and health). Students will work in pairs to prepare the slide deck and deliver the oral briefing in class and provide the slide deck with speaker notes to the Professor.	30%	Week #13: Dec. 4, 2023

Assignment/Activity	Date Assigned	Due Date	% of Grade
Class participation	9/12/2023	Ongoing	10%
Reading response #1	9/12/2023	9/18/23	3%

Reading response #2	9/19/2023	9/25/2023	3%
Reading response #3	9/26/2023	10/2/2023	4%
Blog	9/19/2023	10/16/2023	10%
Assignment #1: Written comments on rule, program or policy.	10/17/2023	11/11/2023	35%
Assignment #1: Oral testimony to accompany written comments	10/17/2023	11/12/2023	5%
Assignment #2: Slide deck and presentation to local official	10/17/2023	12/4/2023	30%
Total			100%

All homework and project assignments must be submitted online to Canvas course by 11:59 pm of the due date.

**Homework and project assignments must be submitted on time (NO EXCEPTIONS). A 10% deduction will be applied for each day an assignment is late. However, you have one late pass – essentially a no questions asked, way to hand in one assignment 48 hours late.**

### Academic Support

#### Accessibility and Accommodations

Brown University is committed to the full inclusion of all students. Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. Please inform me early in the term if you may require accommodations or modification of any of course procedures. You may speak with me after class, during office hours, or by appointment. You may also reach out to Student Accessibility Services (SAS) for their assistance ([seas@brown.edu](mailto:seas@brown.edu), 401-863-9588). Students in need of short-term academic advice or support can contact one of the academic deans in the College.

#### Diversity & Inclusion

It is my intention that students from all diverse backgrounds and perspectives be served by this course, that learning needs be addressed both in and out of class, and that student diversity be viewed as a resource, strength, and benefit. I intend to present materials and activities that are respectful of diversity, including age, culture, disability, ethnicity, gender identity, perspective, sexual orientation, socio-economic status, race and other background characteristics. Your suggestions about how to improve the value of diversity in this course are encouraged and appreciated. Please let me know if any of our class meetings conflict with your religious observances so that we can make arrangements for

you. Source of content for this statement: University of Iowa College of Education:  
<https://education.uiowa.edu/services/office-dean/policies/syllabus-checklist>

**Technology**

This course will use the following technological platforms: Canva, Google Drive, and Canvas. I am committed to ensuring access to online course resources by students. Please also see the Online and Hybrid Learning Student Guide. If you have any concerns or questions about access or the privacy of any of these platforms, please reach out to me. The [IT Service Center](#) provides many IT Services including remote assistance, phones, tickets, and chat. Please also see the [Online and Hybrid Learning Student Guide](#).

**Questions, Help, and Your TA**

If you ever have a question regarding the course, assignments, current topics, grades, public health in general, or anything else, please feel free to reach out to the TA by email or during office hours. We also encourage you to check the syllabus and the course website, as answers to many questions can be found here. I am happy to assist in any of these areas and can be quickly contacted by email. Meetings can be easily and quickly arranged as needed.

**Course Calendar: Weekly Schedule**

Over the semester we will work to share, learn, and practice skills. In each session taught by Professor Tohn the class will engage in at least one activity, discuss content presented by the Professor, and practice skill building (e.g., preparing persuasive slides).

Week 1: 9.12.23	Overview & Extreme Heat
Objectives	<ul style="list-style-type: none"> <li>• Students understand course agenda, expectations, and grading scheme</li> <li>• Identify 4 significant climate risks affecting human health</li> <li>• Describe 2 changes in temperatures and heat due to a changing climate</li> <li>• Identify 2 vulnerable populations to heat</li> <li>• Identify 2 strategies to prepare for extreme heat</li> </ul>
Class Activities	<p><b>Welcome – Activity</b>  <b>Exercise –</b> Brainstorm health impacts of changing climate  <b>Discussion:</b> Health impacts of heat and potential responses – individual brainstorm and group discussion  <b>Lecture and critique slides</b>  <b>Skill building:</b> Prepare persuasive slides &amp; share</p>
Readings	<p><b>Required</b></p> <ul style="list-style-type: none"> <li>• <a href="#">The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment National Climate Assessment</a> , The U.S. Global Change Research Program (USGCRP) Climate and Health Assessment, Overview, 2016</li> <li>• Astounding heat obliterates all-time records across the Pacific Northwest and Western Canada in June 2021 - <a href="https://www.climate.gov/news-">https://www.climate.gov/news-</a></li> </ul>

	<p><a href="#">features/event-tracker/astounding-heat-obliterates-all-time-records-across-pacific-northwest</a></p> <ul style="list-style-type: none"> <li>• <a href="#">NYTimes article</a> on European heat</li> </ul> <p><b>Other Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">“Health Costs of Climate Change Are in the Billions”</a>, Natural Resources Defense Council [Video – 6 min]</li> <li>• Intergovernmental Panel on Climate Change (IPCC), <a href="#">North American Factsheet</a>, 2022.</li> <li>• IPCC, <a href="#">Chapter 7: Health, Wellbeing, and the Changing Structure of Communities</a>, 2022.</li> <li>• Bloomberg Green, Mapping the Coolest Spots Inside the World’s Sweltering Cities, 2022. <a href="https://www.bloomberg.com/graphics/2022-city-heatwave-adaptations/?cmpid=BBD080422_GREENDAILY">https://www.bloomberg.com/graphics/2022-city-heatwave-adaptations/?cmpid=BBD080422_GREENDAILY</a></li> <li>• Background on European heat waves - <a href="#">background, July 2019</a></li> <li>• <a href="#">Boston Extreme Temperature Map</a></li> <li>• <a href="#">“Show Your Stripes” Temperature Graph – University of Reading</a></li> </ul>
Assignments	<ul style="list-style-type: none"> <li>• Quiz (non-graded): Assessment of students’ pre-course knowledge of climate health risks and impactful solutions</li> <li>• <a href="#">CNN Climate Solutions Quiz</a></li> </ul>
<b>Week 2: 9.19.23</b>	<b>Extreme Weather -Wildfires and Storms</b>
Objectives	<ul style="list-style-type: none"> <li>• Describe 2 changes in extreme weather due to a changing climate</li> <li>• Identify 2 vulnerable populations to extreme weather</li> <li>• Identify 2 strategies to prepare for extreme weather</li> </ul>
Class Activities	<p><b>Discussion:</b> Health impacts of extreme weather – wildfire, storms, flooding, and potential responses –brainstorm and group discussion</p> <p><b>View - show NRDC video</b> <a href="#">“Health Costs of Climate Change Are in the Billions”</a>, Natural Resources Defense Council [Video – 6 min]</p> <p><b>Lecture and critique slides -</b></p> <p><b>Skill building:</b> Prepare persuasive slides &amp; share</p> <p><b>Exit Tickets –</b> What questions do you still have about today’s topic? What part of the class was unclear?</p>
Readings	<p><b>Required</b></p> <ul style="list-style-type: none"> <li>• <a href="#">USGCRP Climate and Health Assessment</a> –Chapter 4 Extreme Events</li> <li>• <a href="#">USGCRP Climate and Health Assessment</a> – Chapter 2: Temperature-Related Death and Illness</li> </ul> <p><b>Other Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Earth is overheating. Millions are already feeling the pain</a>, NY Times, 2022.</li> <li>• <a href="#">Air Now Fire and Smoke Map</a></li> </ul>
Assessment or Assignment	<ul style="list-style-type: none"> <li>• <b>Written reading response, submitted by Monday night September 18, 2023.</b> What did you find surprising? What questions does the reading raise for you?</li> </ul>

	<ul style="list-style-type: none"> <li>• Not graded, class assignment -- visit <a href="https://crt-climate-explorer.nemac.org/">https://crt-climate-explorer.nemac.org/</a> - enter your home zip code or Providence RI, explore the primary map, what are the predicted changes in temperature under different emissions scenario</li> <li>• <a href="https://coast.noaa.gov/slr/#/layer/slr/6/-7949546.363334339/5134635.005615035/13/satellite/none/0.8/2050/interHigh/midAccretionlink">https://coast.noaa.gov/slr/#/layer/slr/6/-7949546.363334339/5134635.005615035/13/satellite/none/0.8/2050/interHigh/midAccretionlink</a></li> </ul>
<b>Week 3: 9.26.23</b>	<b>Air Pollution &amp; Mental Health</b>
Objectives	<ul style="list-style-type: none"> <li>• Describe at least 2 ways climate risks can impact air pollution and health</li> <li>• Identify 2 vulnerable populations for air pollution risks</li> <li>• Identify 2 approaches to respond to increased air pollution risks</li> <li>• Describe at least 2 mental health consequences of a changing climate</li> </ul>
Class Activities	<p><b>Activity:</b> Brainstorm and group discussion</p> <p><b>Lecture</b></p> <p><b>Activity:</b> <a href="#">Explore MA air quality and estimated public health impact data</a>, discussion</p> <p><b>Skill building:</b> Prepare persuasive slides and share</p>
Readings	<p><b>Required</b></p> <ul style="list-style-type: none"> <li>• <a href="#">USGCRP Climate and Health Assessment</a> – Chapter 3 Air Quality Impacts and Chapter 8 Mental Health and Well-Being</li> <li>• <a href="#">“Young people’s climate anxiety revealed in landmark survey”</a>, Nature, Sept 2021</li> <li>• <a href="#">How climate change can impact mental health</a>, BBC 2021 (5 min)</li> </ul> <p><b>Other Resources</b></p> <ul style="list-style-type: none"> <li>• Boston University Study – explore air pollution impacts by MA town <a href="https://www.bc.edu/bc-web/centers/schiller-institute/sites/masscleanair.html">https://www.bc.edu/bc-web/centers/schiller-institute/sites/masscleanair.html</a></li> <li>• <a href="#">A Growing Number of Young Americans Feel Climate Anxiety</a>, PBS Newshour 2021, (8 min)</li> <li>• <a href="#">National Environmental Public Health Tracking Network</a>, CDC – tracking air quality, asthma, lead, etc.</li> <li>• <a href="#">CDC Asthma Data</a></li> <li>• Nassikas NJ, Spangler K, Wellenius GA. Asthma Exacerbations Attributable to Ozone Air Pollution in New England. <i>R I Med J</i> (2013). 2021 Nov 1;104(9):20-23. PMID: 34705902.</li> <li>• Liu, Y., Austin, E., Xiang, J., Gould, T., Larson, T., &amp; Seto, E. (2021). Health impact assessment of the 2020 Washington State wildfire smoke episode: Excess health burden attributable to increased PM2.5 exposures and potential exposure reductions. <i>GeoHealth</i>, 5, e2020GH000359. <a href="https://doi.org/10.1029/2020GH000359">https://doi.org/10.1029/2020GH000359</a></li> </ul>
Assessment	<p><b>Written reading response, submitted by Monday night September 25, 2023.</b></p> <p>What did you find most interesting or compelling?</p>



<b>Week 4: 10.3.23</b>	<b>Water Quality, Vector Borne Disease &amp; Health Equity</b>
Objectives	<ul style="list-style-type: none"> <li>• Describe at least 2 ways climate risks can water quality, vector borne disease</li> <li>• Identify 2 vulnerable populations</li> <li>• Describe 2 examples of health inequities linked to changing climate</li> </ul>
Class Activities	<p><b>Discussion:</b> Health impacts of changing water quality, vectors, and resulting health inequalities -- brainstorm and group discussion</p> <p><b>Lecture and critique slides</b></p> <p><b>Video &amp; Discussion:</b> Environmental Justice – Green Roots</p> <p><b>Skill building:</b> Prepare persuasive slides &amp; share</p> <p><b>Participation Self Reflection</b> – Based on participation rubrics draft a written self reflection: Am I thoughtfully contributing in class, participating on canvas, or otherwise engaging with the course. What will I continue doing; what might I change moving forward.</p>
Readings	<p><b>Required</b></p> <ul style="list-style-type: none"> <li>• USGCRP Climate and Health Assessment – Chapter 5 Vector Borne Disease and Chapter Water Related Illness &amp; Chapter 9 Populations of Concern</li> </ul> <p><b>Other Resources</b></p>
Assessment	<p><b>Written reading response, submitting by Monday night October 2, 2023.</b> What health equity issues stood out for you and why?</p>
<b>Week 5: 10.10.23</b>	<b>Designing Multi- Solving Solutions for Climate</b>
Objectives	<ul style="list-style-type: none"> <li>• Describe multi solving</li> <li>• Identify 2 multi-solving solutions for climate and health</li> </ul>
Class Activity	<ul style="list-style-type: none"> <li>• Listen to TedEx Talk <a href="#">The Power of Multi-Solving for People and Climate</a>, Elizabeth Sawin MIT Multi Solving Institute, TEDxSunValley</li> <li>• Gina McCarthy – <a href="#">Climate is an intersectional issue</a></li> <li>• Discuss Yale data on climate opinions-- <a href="https://climatecommunication.yale.edu/visualizations-data/ycom-us/">https://climatecommunication.yale.edu/visualizations-data/ycom-us/</a></li> <li>• Review Climate Action Plans - Boston Climate Action Plan -<a href="#">Boston Climate Action Plan 2019</a>, Wayland Climate Action Mobilization Plan</li> <li>• Review public health impact triangle</li> </ul>
Readings	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Multi Solving at the Intersection of Climate and Health</a>, MIT Multi-Solving Institute</li> <li>• <b>Skim reports, look at Green House Gas Inventory and Priority Actions</b> <a href="#">Boston Climate Action Plan 2019</a>; <a href="#">Wayland MA Climate</a></li> </ul>

	<ul style="list-style-type: none"> <li>• <a href="#">Action Mobilization Plan, 2022</a></li> </ul> <p><b>Other Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Systems change, Multi solving, and the power to change direction with Dr. Elizabeth Sawin</a>, Climate Interactive</li> <li>• <a href="#">Air Pollution and Climate</a> &amp; <a href="#">Extreme Heat</a> Factsheets, RI Department of Health</li> <li>• <a href="#">Sources of Greenhouse Gas Emissions</a>, US EPA</li> </ul>
<b>Week 6: 10.17.23</b>	<b>Effectively Advocating Solutions: Writing Effective Public Comments &amp; Developing Briefing Packages</b>
Objectives	<ul style="list-style-type: none"> <li>• Describe 3 key attributes of effective public comments on rulemakings or policies</li> <li>• Describe key elements of effective briefing packages for Governor, Agency Directors</li> </ul>
Class Activities	<ul style="list-style-type: none"> <li>• Review key elements of effective public comments – Environmental Law Institute materials</li> <li>• Share exemplar comments – Massachusetts Utility Filing – Acadia Center;</li> <li>• Discussion</li> <li>• Introduce 3 options for drafting comments: MA Utility Filing, RI Climate Action Plan, TBD</li> <li>• Skill Building activity – practice &amp; share</li> <li>• Briefing decks – Who, Why &amp; How, What</li> </ul>
Readings	<p><b>Required</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Public Participation in Environmental Decision-Making: Step-by-Step Tips for Writing Effective Public Comments, Step-by-Step Tips to Providing Effective Verbal Comments</a>, Environmental Law Institute.</li> <li>• <a href="#">How to Effectively Comment on Regulations</a>, Brookings Center for Regulation and Markets, 2018.</li> </ul> <p><b>Other Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">What is Rulemaking</a>, Regulation Room, Cornell University</li> <li>• <a href="#">What is Effective Commenting</a>, Regulation Room, Cornell University</li> <li>• <a href="#">RI Asthma Data</a>, accessed March 2022</li> <li>• Looney A. <i>How to Effectively Comment on Regulations</i>. The Brookings Institute; 2018:7. <a href="https://www.brookings.edu/wp-content/uploads/2018/08/ES_20180809_RegComments.pdf">https://www.brookings.edu/wp-content/uploads/2018/08/ES_20180809_RegComments.pdf</a></li> <li>• <i>Step-by-Step Tips for Providing Effective Verbal Comments</i>. Environmental Law Institute; 2013:4. <a href="https://www.eli.org/sites/default/files/files-pdf/Verbal-Commenting_1.pdf">https://www.eli.org/sites/default/files/files-pdf/Verbal-Commenting_1.pdf</a></li> <li>• <i>Step-by-Step Tips for Writing Effective Public Comments</i>. Environmental Law Institute; 2013. <a href="http://eli-ocean.org/wp-content/blogs.dir/2/files/Written-Commenting.pdf">http://eli-ocean.org/wp-content/blogs.dir/2/files/Written-Commenting.pdf</a></li> </ul>
Assignments	<ul style="list-style-type: none"> <li>• Group Exercise non graded, critique sample comments on proposed</li> </ul>

	<p>rulemaking</p> <ul style="list-style-type: none"> <li>• Assignment #1: Prepare written comments on proposed rule, policy, or plan, maximum 4 pages. Students will be provided 3 options. Prepare 5 min oral testimony. Students will present oral testimony during week 10. Grading rubric is <a href="#">here</a>.</li> <li>• <b>Assignment #2: Slide deck and oral presentation on climate solutions that improve health.</b> Work in pairs to prepare a 10 min briefing for a governor, mayor, or school superintendent recommending climate solutions that also address one or more public health issues. Prepare a slide deck with speaking notes. Sample scenarios will be provided. Students will deliver these briefings during weeks 13 &amp; 14. Grading rubric is <a href="#">here</a>.</li> </ul>
<b>Week 7: 10.24.23</b>	<b>Electrifying Transportation – Julie Gold, Principal Strategy and Policy Analyst, Clean Transportation at National Grid</b>
Objectives	<p>Learning Objectives</p> <ul style="list-style-type: none"> <li>• Describe the contribution of internal combustion engines to greenhouse gas emissions and the reductions moving to electric vehicles</li> <li>• Describe 2 challenges to implement electric vehicle programs</li> </ul>
Readings	<ul style="list-style-type: none"> <li>• <a href="#">How to Move America to Electric Vehicles</a>, Rocky Mountain Institute, 2021</li> </ul>
<b>Week 8: 10.31.23</b>	<b>Buildings – Energy Efficiency, Solar, and Electrification</b>
Objectives	<p>Learning Objectives</p> <ul style="list-style-type: none"> <li>• Describe how energy efficiency can improve health outcomes</li> <li>• List 2 funding sources for residential energy efficiency programs</li> <li>• Explain key strategies for home electrification and health benefits</li> <li>• Describe 2 policy initiatives to encourage residential solar adoption</li> </ul>
Readings	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• E4TheFuture, <a href="#">“Occupant Health Benefits of Residential Energy Efficiency”</a>, 2019</li> <li>• <a href="#">Health Effects from Gas Stove Pollution</a>, Rocky Mountain Institute,</li> </ul>
<b>Week 9: 11.7.23</b>	<b>Role of Healthcare in Climate Solutions - Dr. Kate Moretti, Assistant Professor of Emergency Medicine, Brown Emergency Physicians; Jon Utech, Senior Director, Office for a Healthy Environment at Cleveland Clinic; Lauren Kleinman Koch, Sustainability Director, Ohio State University Medical Center</b>
Objectives	Describe 2 activities hospitals are undertaking to address climate risks
Readings	<p>Required:  <a href="#">Climate Action, A Playbook for Hospitals</a>, HealthCare Without Harm</p> <p>Optional  <a href="#">Leveraging Hospital Community Benefits to Address Climate Change</a>, HealthCare Without Harm, 2016.</p>

<b>Week 10: 11.12.23</b>	<b>Class Presentations – Comments on Rulemaking &amp; Oral Testimony, Final Discussion of Briefing Decks Assignment #1</b>
Objectives	Student presentations of oral testimony on proposed rule or policies. Answer student questions on assignment #1
Activity	<b>Brainstorm</b> – What makes a good presentation; what might a rubric look like? <b>Student oral testimony presentations</b> <b>Review rubric for final presentations</b> - consider modification
Assignments Due	Oral testimony for comments on proposed rules. Students submit written testimony.
<b>Week 11: 11.21.23</b>	<b>Aqua Culture –A Food System Response</b> - Scott Lindell, Research Specialist AOPE Woods Hole Oceanographic Institution <a href="http://www2.whoi.edu/site/lindell-lab/">www2.whoi.edu/site/lindell-lab/</a>
Objectives	<ul style="list-style-type: none"> <li>Identify 2 climate benefits of aquaculture in reducing GHGs</li> <li>Identify 2 health benefits of increased fish in diets</li> <li>Identify 2 regulatory or policy challenges to scale such work</li> </ul>
Readings	<p><b>Required</b> Scott Lindell Ted Talk <a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwiQsl39gb_2AhXzKUQIHbGwAGkQwqsBegQIAhAB&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DfVMOjSB5cuE&amp;sg=AOvVaw3TEgU55aBi_yidVCdfr2yz">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwiQsl39gb_2AhXzKUQIHbGwAGkQwqsBegQIAhAB&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DfVMOjSB5cuE&amp;sg=AOvVaw3TEgU55aBi_yidVCdfr2yz</a></p> <p><b>Other Resources</b> <a href="#">Seaweed Solutions</a>, Oceans Encounters, Wood Hole Oceanographic Institution [Video 90 min]</p>
<b>Week 12: 11.28.23</b>	<b>Role of Health Departments In Addressing Climate Risks. Speakers TBD</b>
<b>Week 13: 12.5.23</b>	<b>Class Presentations –Briefings</b>
Objectives	Students deliver “briefings” for governor or mayor – Assignment #2
Assignments due	Assignment #2
<b>Week 14: 12.12.23</b>	<b>Class Presentations – Briefings</b>
Objectives	Students deliver “briefings” for governor or mayor – Assignment #2
Assignments due	Assignment #2