

Cover Sheet: Request 14939

PHC 4XXX Climate Change, the Environment, and the Future of Public Health New Course

Info

| | |
|------------------------|---|
| Process | Course New Ugrad/Pro |
| Status | Pending at PV - University Curriculum Committee (UCC) |
| Submitter | Candice Vogtle cvogtle@ufl.edu |
| Created | 4/24/2020 12:08:20 PM |
| Updated | 7/1/2020 2:02:05 PM |
| Description of request | New Course submission: As a complex and dynamic issue, climate change is impacting a vast number of environmental, socio-ecological, and human systems, including public health. This course unpacks key social, environmental, global health, justice, policy, and economic issues, as well as approaches to mitigation and adaptation at multiple scales |

Actions

| Step | Status | Group | User | Comment | Updated |
|---|----------|--|-------------------|---|-----------|
| Department | Approved | PHHP - Environmental and Global Health 313316000 | Victoria Houghton | | 4/24/2020 |
| No document changes | | | | | |
| College | Recycled | PHHP - College of Public Health and Health Professions | Candice Vogtle | | 5/7/2020 |
| UCC Consult Form BSC3307C for PHC493 .pdf | | | | | 4/29/2020 |
| UCC Consult Form EM.pdf | | | | | 4/29/2020 |
| UCC Consult Form PHC4930 for BSC4930.pdf | | | | | 4/29/2020 |
| Department | Approved | PHHP - Environmental and Global Health 313316000 | Victoria Houghton | | 5/7/2020 |
| No document changes | | | | | |
| College | Recycled | PHHP - College of Public Health and Health Professions | Candice Vogtle | Please address concerns in consults. | 5/7/2020 |
| No document changes | | | | | |
| Department | Approved | PHHP - Environmental and Global Health 313316000 | Victoria Houghton | Updated syllabus after discussion with Dr. Hack is attached and we would like to submit for approval. | 6/5/2020 |
| No document changes | | | | | |
| College | Approved | PHHP - College of Public Health and Health Professions | Stephanie Hanson | | 7/1/2020 |
| PHC 4XXX Climate Change, the Environment, and the Future of Public Health 6.8.20.docx | | | | | 6/8/2020 |
| University Curriculum Committee | Pending | PV - University Curriculum Committee (UCC) | | | 7/1/2020 |
| No document changes | | | | | |

| Step | Status | Group | User | Comment | Updated |
|-----------------------------------|--------|-------|------|---------|---------|
| Statewide Course Numbering System | | | | | |
| No document changes | | | | | |
| Office of the Registrar | | | | | |
| No document changes | | | | | |
| Student Academic Support System | | | | | |
| No document changes | | | | | |
| Catalog | | | | | |
| No document changes | | | | | |
| College Notified | | | | | |
| No document changes | | | | | |

Course|New for request 14939

Info

Request: PHC 4XXX Climate Change, the Environment, and the Future of Public Health New Course

Description of request: New Course submission:

As a complex and dynamic issue, climate change is impacting a vast number of environmental, socio-ecological, and human systems, including public health. This course unpacks key social, environmental, global health, justice, policy, and economic issues, as well as approaches to mitigation and adaptation at multiple scales

Submitter: Candice Vogtle cvogtle@ufl.edu

Created: 4/24/2020 11:47:15 AM

Form version: 1

Responses

Recommended Prefix PHC

Course Level 3

Course Number XXX

Category of Instruction Intermediate

Lab Code None

Course Title Climate Change, the Environment, and the Future of Public Health

Transcript Title Climate Chng Pub Hlth

Degree Type Baccalaureate

Delivery Method(s) On-Campus, Online

Co-Listing No

Effective Term Earliest Available

Effective Year Earliest Available

Rotating Topic? No

Repeatable Credit? No

Amount of Credit 3

S/U Only? No

Contact Type Regularly Scheduled

Weekly Contact Hours 3

Course Description As a complex and dynamic issue, climate change is impacting a vast number of environmental, socio-ecological, and human systems, including public health. This course unpacks key social, environmental, global health, justice, policy, and economic issues, as well as approaches to mitigation and adaptation at multiple scales

Prerequisites BSC 2005 or BSC 2010 and minimum of Junior standing or instructor approval

Co-requisites N/A

Rationale and Placement in Curriculum Once approved, this course will be offered as an elective to undergraduate students. The course will be open to all undergraduate students (inside and outside of PHHP) who meet the prerequisites. As of this submission we don't plan on making this course a requirement of any academic program.

Course Objectives Content

Using academic literature and scientific evidence related to specific climate change and environmental health topics, upon completion of the course students will be able to:

1. Describe key causes of climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
2. Identify major risk factors for adverse impacts related to climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
3. Predict potential adverse impacts of climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
4. Identify key actors in addressing and mitigating climate change at the local, regional, national, and international levels.

Critical Thinking

5. Use data and evidence to assess priority focus areas related to climate change and environmental health in various contexts.
6. Identify and compare appropriate interventions, action plans, or solutions for specific climate change and environmental health threats in various contexts and scales.
7. Describe ethical and social justice implications of climate change and environmental health impacts as well as considerations affecting the design of interventions and solutions.
8. Analyze the factors that contribute to the success or failure of climate change and environmental health-related partnerships.

Communication

9. Identify key players and actors in climate change and target messages to specific audiences when developing environmental health-related communication strategies.
10. Assess, critique, and design behavior change communications for specific contexts related to climate change and environmental health topics.
11. Develop a targeted policy and advocacy communication plan to address a situation related to climate change and environmental health.

Course Textbook(s) and/or Other Assigned Reading The Royal Society and the US National Academy of Sciences. Climate change evidence & causes.

https://royalsociety.org/-/media/Royal_Society_Content/policy/projects/climate-evidence-causes/climatechange-evidence-causes.pdf

Cook, D. 2020. How the term 'anthropocene' jumped from geoscience to hashtags – before most of us knew what it meant. *The Conversation*. <https://theconversation.com/how-the-term-anthropocene-jumpedfrom-geoscience-to-hashtags-before-most-of-us-knew-what-it-meant-130130>

The Royal Society and the US National Academy of Sciences. Climate change evidence & causes. https://royalsociety.org/-/media/Royal_Society_Content/policy/projects/climate-evidence-causes/climatechange-evidence-causes.pdf

Peach, S. 2020. 'How is climate change affecting winter in my region?' *Yale Climate Connections*. <https://www.yaleclimateconnections.org/2020/02/how-is-climate-change-affecting-winter-in-my-region/>
Yoho, R. 2019. Hope in discussing environmental issues. *Minding Nature*. 12(3), 107-111. Link.

Ifran, U. 2015. Climate change is coming for U.S. energy infrastructure. *Scientific American*. <https://www.scientificamerican.com/article/climate-change-is-coming-for-u-s-energy-infrastructure/>
U.S. Department of Energy. 2015. Climate change and the U.S. Energy Sector: Regional vulnerabilities and resilience solutions. Link. Read pages xii through 1-4.

U.S. Department of Energy. 2015. Southeast. Climate change and the U.S. energy sector: regional vulnerabilities and resilience solutions. Summary in brief. <https://www.energy.gov/sites/prod/files/2015/10/f27/Southeast.pdf>

Cronin, J., Anandarajah, G., & Dessens, O. (2018). Climate change impacts on the energy system: a review of trends and gaps. *Climatic change*, 151(2), 79-93. <https://link.springer.com/content/pdf/10.1007/s10584-018-2265-4.pdf>

York, R. (2012). Do alternative energy sources displace fossil fuels?. *Nature Climate Change*, 2(6), 441-443. <https://www.nature.com/articles/nclimate1451.pdf>
U.S. EPA. ND. Climate impacts on human health. <https://archive.epa.gov/epa/climate-impacts/climateimpacts-human-health.html>

Vezzulli, L., Grande, C., Reid, P. C., Hélaouët, P., Edwards, M., Höfle, M. G., ... & Pruzzo, C. (2016). Climate influence on *Vibrio* and associated human diseases during the past half-century in the coastal North Atlantic. *Proceedings of the National Academy of Sciences*, 113(34), E5062-E5071. <https://www.pnas.org/content/pnas/113/34/E5062.full.pdf>

Yale Climate Connections. 2020. To protect residents from wildfire smoke, some cities set up clean air shelters. <https://www.yaleclimateconnections.org/2020/02/clean-air-shelters-to-protect-residents-from-wildfire-smoke/> (90 second audio)

Harrington, S. 2019. How climate change threatens public health. Yale Climate Connections. <https://www.yaleclimateconnections.org/2019/08/how-climate-change-threatens-public-health/>
Brown, M. E., & Funk, C. C. (2008). Food security under climate change. *Science*, 319(5863), 580-581.
<https://science.sciencemag.org/content/sci/319/5863/580.full.pdf>

Schmidhuber, J., & Tubiello, F. N. (2007). Global food security under climate change. *Proceedings of the National Academy of Sciences*, 104(50), 19703-19708.
<https://www.pnas.org/content/pnas/104/50/19703.full.pdf>
U.S. EPA. 2017. Climate impacts on agriculture and food supply.
<https://archive.epa.gov/epa/climateimpacts/climate-impacts-agriculture-and-food-supply.html>

Johnston, P (interviewee) and O Patel (interviewer). 2020. Pasha 50: The threat of climate change to South Africa's agriculture. *The Conversation*. <https://theconversation.com/pasha-50-the-threat-of-climate-change-to-south-africas-agriculture-130137> (5 minute audio)

Harvey, C. 2018. Climate change is becoming a top threat to biodiversity. *Scientific American*.
<https://www.scientificamerican.com/article/climate-change-is-becoming-a-top-threat-to-biodiversity/>

Chen, I. C., Hill, J. K., Ohlemüller, R., Roy, D. B., & Thomas, C. D. (2011). Rapid range shifts of species associated with high levels of climate warming. *Science*, 333(6045), 1024-1026.
<https://science.sciencemag.org/content/sci/333/6045/1024.full.pdf>

Dantas, T. 2018. How climate change affects biodiversity loss. *Medium*.
<https://medium.com/@thalesetd/how-climate-change-affects-biodiversity-loss-d6a93fb1a760>

Legagneux, P., Casajus, N., Cazelles, K., Chevallier, C., Chevrin, M., Guéry, L., ... & Ropars, P. (2018). Our house is burning: discrepancy in climate change vs. biodiversity coverage in the media as compared to scientific literature. *Frontiers in Ecology and Evolution*, 5, 175.
<https://www.frontiersin.org/articles/10.3389/fevo.2017.00175/full>

Oliver-Smith, A. (2012). Debating environmental migration: society, nature and population displacement in climate change. *Journal of International Development*. 24, 1058-1070.
<https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/jid.2887>

Yale Climate Connections. 2020. Hottest places in a city are often low-income neighborhoods. <https://www.yaleclimateconnections.org/2020/02/hottest-places-in-a-city-are-often-low-income-neighborhoods/> (90 second audio)

Ahmed, S. 2020. Climate change impacts in Bangladesh show how geography, wealth and culture affect vulnerability. *The Conversation*. <https://theconversation.com/climate-change-impacts-in-bangladesh-show-how-geography-wealth-and-culture-affect-vulnerability-128207>

Hoffman, A and E Hughes-Cromwick. 2018. Nobel award recognizes how economic forces can fight climate change. *The Conversation*. <https://theconversation.com/nobel-award-recognizes-how-economic-forces-can-fight-climate-change-104520>

Sinclair, P. 2020. Video: BlackRock CEO warns of increasing climate risks to investors. Yale Climate Connections. <https://www.yaleclimateconnections.org/2020/02/video-blackrock-ceo-warns-of-increasingclimate-risks-to-investors/> (includes article and 6 minute video)

Alexander, S. 2020. I've seriously tried to believe capitalism and the planet can coexist, but I've lost faith. The Conversation. <https://theconversation.com/ive-seriously-tried-to-believe-capitalism-and-the-planetcan-coexist-but-ive-lost-faith-131288>

Baldauf, M., Garlappi, L., & Yannelis, C. (2020). Does climate change affect real estate prices? Only if you believe in it. *The Review of Financial Studies*, 33(3), 1256-1295. <https://academic.oup.com/rfs/article/33/3/1256/5735306>

Palm, R and TW Bolsen. 2020. 'Sea level rise won't affect my house' – even flood maps don't sway Florida coastal residents. The Conversation. <https://theconversation.com/sea-level-rise-wont-affect-myhouse-even-flood-maps-dont-sway-florida-coastal-residents-130433>

Hobbie, S. E., & Grimm, N. B. (2020). Nature-based approaches to managing climate change impacts in cities. *Philosophical Transactions of the Royal Society B*, 375(1794), 20190124. <https://royalsocietypublishing.org/doi/pdf/10.1098/rstb.2019.0124>

Rodríguez, I and M Inturias. 2020. Bolivia: contribution of indigenous people to fighting climate change is hanging by a thread. The Conversation. <https://theconversation.com/bolivia-contribution-of-indigenouspeople-to-fighting-climate-change-is-hanging-by-a-thread-129399>

Linzey, T., & Brannen Jr, D. E. (2017). A Phoenix from the Ashes: Resurrecting a Constitutional Right of Local, Community Self-Government in the Name of Environmental Sustainability. *Ariz. J. Env'tl. L. & Pol'y*, 8, 1. Link

Stone, C. D. (2010). *Should trees have standing?: law, morality, and the environment*. Oxford University Press. Chapter 1. Should trees have standing? Toward legal rights for natural objects. (Chapters available through UF library - <https://ebookcentral.proquest.com/lib/ufli/detail.action?docID=1591559#>)

Mount, M. 2017. Can a river have legal rights? I visited the jungles of Colombia to find out. The Conversation. <https://theconversation.com/can-a-river-have-legal-rights-i-visited-the-jungles-of-colombiato-find-out-84878>

Westerman, A. 2019. Should rivers have same legal rights as humans? A growing number of voices say yes. NPR. <https://www.npr.org/2019/08/03/740604142/should-rivers-have-same-legal-rights-as-humansa-growing-number-of-voices-say-ye>

Stone, C. D. (2010). *Should trees have standing?: law, morality, and the environment*. Oxford University Press. Chapter 2. Does the climate have standing? (Chapters available through UF library - <https://ebookcentral.proquest.com/lib/ufli/detail.action?docID=1591559#>)

Sims Gallagher, K. 2018. State cap-and-trade systems offer evidence that carbon pricing can work. The Conversation. <https://theconversation.com/state-cap-and-trade-systems-offer-evidence-that-carbonpricing-can-work-101428>

Bradlow, D. 2019. Central banks are waking up to climate change dangers. It's about time. The Conversation. <https://theconversation.com/central-banks-are-waking-up-to-climate-change-dangers-its-about-time-122204>

Wood, M and MC Blumm. 2020. The dramatic dismissal of a landmark youth climate lawsuit might not close the book on that case. The Conversation. <https://theconversation.com/the-dramatic-dismissal-of-a-landmark-youth-climate-lawsuit-might-not-close-the-book-on-that-case-130162>

Institute of Physics. 2017. The most effective individual steps to tackle climate change aren't being discussed. <https://phys.org/news/2017-07-effective-individual-tackle-climate-discussed.html>

Wood, T. 2020. Carbon pricing: it's a proven way to reduce emissions but everyone's too scared to mention it. The Conversation. <https://theconversation.com/carbon-pricing-its-a-proven-way-to-reduce-emissions-but-everyones-too-scared-to-mention-it-132342>

Chan, G; R Stavins; Z Ji. 2018. International climate change policy. Annual Review of Resource Economics. 10:335-60. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-resource-100517-023321>

Cubie, D. (2014). Promoting dignity for all: Human rights approaches in the post-2015 climate change, disaster risk reduction and sustainable development frameworks. Hum. Rts. & Int'l Legal Discourse, 8, 36.

The Universal Declaration of Human Rights. United Nations General Assembly, Paris, 10 December 1948. General Assembly resolution 217A. <https://www.un.org/en/universal-declaration-human-rights/>
United Nations. ND. History of the Document. Universal Declaration of Human Rights. <https://www.un.org/en/sections/universal-declaration/history-document/index.html>

Lieberman, B. 2019. A brief introduction to climate change and national security. Yale Climate Connections. <https://www.yaleclimateconnections.org/2019/07/a-brief-introduction-to-climate-change-and-national-security/>

Berwyn, B. 2018. A year of climate change evidence: notes from a science reporter's journal. Inside Climate News. <https://insideclimatenews.org/news/24122018/climate-change-evidence-reports-2018-year-review-ipcc-arctic-emissions-gap-national-assessment>

Sommer, L. K., & Klöckner, C. A. (2019). Does activist art have the capacity to raise awareness in audiences?—A study on climate change art at the ArtCOP21 event in Paris. Psychology of Aesthetics, Creativity, and the Arts. <https://psycnet.apa.org/fulltext/2019-36639-001.pdf>

Lawson, D. F., Stevenson, K. T., Peterson, M. N., Carrier, S. J., Strnad, R. L., & Seekamp, E. (2019). Children can foster climate change concern among their parents. Nature Climate Change, 9(6), 458-462. <https://faculty.cnr.ncsu.edu/nilspeterson/wp-content/uploads/sites/17/2019/09/Lawson-et-al.-2019-IGLNCC.pdf>

Muller, D. 2020. Media 'impartiality' on climate change is ethically misguided and downright dangerous.

The Conversation. <https://theconversation.com/media-impartiality-on-climate-change-is-ethically-misguided-and-downright-dangerous-130778>
(looking ahead to developing the poster)

Erren, TC; PE Bourne. 2007. Ten simple rules for a good poster presentation. PLoS Computational Biology. 3(5)e102. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1876493/pdf/pcbi.0030102.pdf>

Capon, A. 2020. 222 scientists say cascading crises are the biggest threat to the well-being of future

generations. The Conversation. <https://theconversation.com/222-scientists-say-cascading-crises-are-the-biggest-threat-to-the-well-being-of-future-generations-131551>

Power, A. To prepare climate strikers for the future, we need to rewrite the history books. The Conversation. <https://theconversation.com/to-prepare-climate-strikers-for-the-future-we-need-to-rewritethe-history-books-131857>

Levy, N. 2020. Climate change: how do I cope with our planet's inevitable decline? The Conversation. <https://theconversation.com/climate-change-how-do-i-cope-with-our-planets-inevitable-decline-128593>

University of Nebraska-Lincoln Office of Graduate Studies. ND. Presenting a research poster. Graduate

Connections. <https://www.unl.edu/gradstudies/connections/presenting-research-poster>

Weekly Schedule of Topics 1 August 25, 27 Syllabus Discussion and Development of Course Ground Rules

-Syllabus, course activities, and course content discussion

-Students and professor will work collaboratively to define expectations for course, conduct, timeliness/late policies, and interactions

Drivers: What are the drivers of climate change?

-Historical perspectives

-Nature v. anthropogenic climate change

-Climate change v. global warming – why terminology matters

2 September 1, 3 Drivers: What are the drivers of climate change? (continued)

-Factors affecting climate change

-Population growth

-Rate of change for the climate

-Modeling and projections

-What ice cores reveal

-Policy changes, legislative, behavioral, and social drivers

Other

-How to read a scientific article

-What is “evidence?”

3 September 8, 10 Drivers: Energy generation and current infrastructure

-Industrial revolution to present

-Fossil fuels, nuclear energy, and sustainable energy generation

-US power grid and energy distribution

-Wastewater infrastructure

4 September 15, 17 Effects: Climate Change and Human Health

-Communicable and noncommunicable diseases

-Energy generation, emissions, and air quality

-Environmental and social justice/injustices

-Mental health

5 September 22, 24 Effects: Food security

-Food and nutrition

-Access to nutritious foods

-Land use and agricultural changes

-Alternative approaches to food production, food use and meatless movements, plant genetic modifications

-Pollinators and food access

-The human cost of agriculture (Case study: farmworkers)

6 September 29, October 1 Effects: Biodiversity

-Biodiversity resources, ecosystem services

-Land use, change, and development

-US land use, deforestation and land use change internationally

-International biodiversity and land use agreements (Case Studies: Amazon Rainforest; Indonesia)

7 October 6, 8 Effects: Environmental Justice and Natural Disasters

-Adaptation, mitigation, and resilience

-Exposure to climate change impacts

-Socioeconomic status and individual/community resilience

-Indigenous populations

8 October 13, 15 Effects: Economics, GDP, and the US and International Stock Markets

- Estimations of current economic losses
- Ecosystem services
- Impacts on Gross Domestic Product, world GDP losses
- Money and more money – businesses, stock market, and “green” trends
- 9 October 20, 22 Effects and Approaches: Community-based issues and solutions
- Impacts of climate change on communities
- Community engagement strategies
- 10 October 27, 29 Effects and Approaches: Rights of Nature
- Does nature have rights? Should it?
- Restoration of natural carbon sinks
- Protection of natural resources using human or “people-focused” values (anthropocentric versus ecocentric approaches)
- 11 November 3, 5 Approaches: Climate Change Law and Policy
- Corporate subsidies, household, business carbon footprint reductions
- Carbon capture and sequestration
- The insurance industry as regulators
- Corporate governance and securities regulation
- 12 November 10, 12 Approaches: Why directions matter - top-down and bottom-up changes
- National and International policies, treaties
- Administrative and executive decisions
- Global consensus, mandatory pledges to reduce GHGs
- International law for enforcing country pledges
- Grassroots and community-based movements
- 13 November 17, 19 Approaches: Dignity, human rights, and national security
- Dignity law
- International human rights
- Climate refugees and human health
- Is climate change a national security issue?
- 14 November 24
- (No class November 26) Approaches: Talking climate change
- Why climate change is political
- Individual and collective action
- How to (productively) talk about climate change and other contentious topics
- Strategies for finding common ground with conversation partners, collaborators, and stakeholders
- 15 December 1, 3 Approaches: Putting it all together and where we go from here
- Alternative energy - nuclear fuels (Case study: Yucca Mountain)
- Renewable energy – wind, water, solar
- Environmental and health impacts of alternative and renewable energy sources
- Preparing for the poster session
- 16 December 8 Term Project Presentations – Poster Session
- Grading Scheme** Requirement Due date – see Course Schedule Points (% of final grade)
- Pre-Class Quizzes Ongoing, 15 through semester 150 points (15% of final grade)
- Post-Class Quizzes Ongoing, 15 through semester 150 points (15% of final grade)
- Homework Ongoing, 4 through semester 50 points each for 4 homework assignments (20% of final grade)
- Semester Paper Ongoing, scaffolded activities through semester 250 points (25% of final grade)
- Term Project Ongoing, scaffolded activities through semester 250 points (25% of final grade)
- Instructor(s)** Dr. Rachel Yoho
- Attendance & Make-up** Yes
- Accommodations** Yes
- UF Grading Policies for assigning Grade Points** Yes
- Course Evaluation Policy** Yes

PHC 4XXX Climate Change, the Environment, and the Future of Public Health

3 credit hours

Fall 2020

Delivery Format: On-Campus/Synchronous, Tuesday 9:35-10:25am, Thursday 9:35-10:25am; Online via Canvas

Course Website: E-Learning via Canvas

Classroom: TBD

Instructor Name: Rachel Yoho, PhD

Room Number: HPNP 4152

Phone Number: 352-273-6166

Email Address: ryoho@phhp.ufl.edu

Office Hours: TBA

Teaching Assistants: TBA

Preferred Course Communications : Canvas Email System

Class Meeting Time: Tuesdays and Thursdays, 9:35-10:25am

In-Person Location: TBA

Online Location: Canvas

Prerequisites

BSC 2005 or BSC 2010 and minimum of Junior standing or instructor approval

Purpose and Outcome

Course Overview

As a complex and dynamic issue, climate change is impacting a vast number of environmental, socio-ecological, and human systems, including public health. This course unpacks key social, environmental, global health, justice, policy, and economic issues, as well as approaches to mitigation and adaptation at multiple scales.

Course Description

Currently, climate change is impacting or has the potential to impact a vast number of environmental, socio-ecological, and human systems. In this course, students will gain an understanding of the complexity of climate change and its dynamic impact on social, environmental, global health, justice, policy, and economic issues, especially as they relate to environmental health and public health. This course takes a local and global approach to understanding climate change, as well as approaches to mitigation and adaptation at multiple scales. Students will investigate the changing middle class in the United States and compare that experience to the experience of the world middle class as a means of unpacking the key issues of economic development, social development, human health, and public health impacted by climate change. Students interested in any aspect of climate change will find the course content relevant. Whether your interest is personal or professional, from the perspective of public health, the health professions and beyond, this course is appropriate for everyone (including the 0.01%, though they have the means and ability to build a rocket ship and find a new planet).

Course Goals and Relation to Program Outcomes

This course provides an undergraduate elective that connects to broader programmatic study outcomes through the following:

1. Dialogue about how climate change, as a complex and dynamic system, impacts diverse areas of environmental health, public health, economics, and societies at large.
2. Identification and critical evaluation of climate change-related issues in diverse sectors (i.e., energy, public health, water, transportation).
 - a. Conceptualization of the impacts of climate change on individual, community, national, and international health.
 - b. Critical evaluation of climate change-related policy and international laws, legal foundations, and agreements and their interactions with health and community function.
 - c. Proposal of solutions to climate change-related issues from the perspective of an evidence-based approach to adaptation and mitigation.
3. Communication via oral and written forms about environmental and climate change-related concepts, including relationships among policy, communities, organizations, interpersonal dynamics, and individual perspectives.
 - a. Provision of constructive peer feedback and critique of peer reports and presentations.
 - b. Identification of target audiences and resulting message design to maximize audience-specific impact of written and oral projects.
4. Appreciation of individual and community experiences related to climate change, including social and environmental justice, and diverse perspectives.

Course Objectives and Student Learning Outcomes

This course is designed to enable students to achieve a set of content, critical thinking, and communications objectives.

Content

Original file: PHC 4XXX Climate Change, the Environment, and the Future of Public Health 6.8.20.docx

Using academic literature and scientific evidence related to specific climate change and environmental health topics, *upon completion of the course students will be able to:*

1. Describe key causes of climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
2. Identify major risk factors for adverse impacts related to climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
3. Predict potential adverse impacts of climate change at various scales (local, regional, global) in terms of socioeconomic, cultural, and environmental health outcomes.
4. Identify key actors in addressing and mitigating climate change at the local, regional, national, and international levels.

Critical Thinking

5. Use data and evidence to assess priority focus areas related to climate change and environmental health in various contexts.
6. Identify and compare appropriate interventions, action plans, or solutions for specific climate change and environmental health threats in various contexts and scales.
7. Describe ethical and social justice implications of climate change and environmental health impacts as well as considerations affecting the design of interventions and solutions.
8. Analyze the factors that contribute to the success or failure of climate change and environmental health-related partnerships.

Communication

9. Identify key players and actors in climate change and target messages to specific audiences when developing environmental health-related communication strategies.
10. Assess, critique, and design behavior change communications for specific contexts related to climate change and environmental health topics.
11. Develop a targeted policy and advocacy communication plan to address a situation related to climate change and environmental health.

Relationship to CEPH Public Health Bachelor's Degree Foundational Domains

The course goals and content objectives in this elective course relate to the following CEPH Public Health Bachelor's Degree Foundational Domains:

| Foundational Domains | Course Goals or Objectives, Course Activities |
|---|---|
| The history and philosophy of public health as well as its core values, concepts and functions across the globe and in society | Course Goal 2a Content Objectives 2, 3, 7 |
| The concepts of population health, and the basic processes, approaches and interventions that identify and address the major health-related needs and concerns of populations | Course Goals 2a, 4 Content Objectives 1-8 |
| The underlying science of human health and disease, including opportunities for promoting and protecting health across the life course the socioeconomic, behavioral, biological, environmental and other factors that impact human health and contribute to health disparities | Course Goals 2a, 2c, 4 Course Objectives 2, 3, 5-7 |
| The fundamental concepts and features of project implementation, including planning, assessment and evaluation | Course Goal 3 Course Objectives 4, 8, 9, 11 |
| The fundamental characteristics and organizational structures of the US health system as well as the differences between systems in other countries | Course Goal 2a Course Objectives 1, 3, 6, 7 |
| Basic concepts of legal, ethical, economic and regulatory dimensions of health care and public health policy and the roles, influences and responsibilities of the different agencies and branches of government | Course Goal 2b, 3c Course Objective 11 |
| Basic concepts of public health-specific communication, including technical and professional writing and the use of mass media and electronic technology | Course Goal 3 Course Objectives 6-11 |

Relationship to CEPH Public Health Bachelor's Degree Cross-Cutting Concepts and Experiences

The course activities in this elective course relate to the following CEPH Bachelor's Degree Cross-Cutting Concepts and Experiences:

| Cross-Cutting Concepts and Experiences | Course Activities |
|---|---|
| Advocacy for protection and promotion of the public's health at all levels of society | All course modules and activities |
| Community dynamics | All community-focused course activities, group term project |
| Critical thinking and creativity | Group term project, critical thinking in homework assignments, semester paper |
| Cultural contexts in which public health professionals work | Course homework on environmental justice and security, |
| Ethical decision making as related to self and society | Debate, homework assignments |
| Independent work and a personal work ethic | All independent work activities (semester paper, homework) |
| Networking | Group term project poster presentation |
| Organizational dynamics | Group project, debate |

| | |
|-------------------------|---|
| Professionalism | All course activities |
| Research methods | Independent semester paper, team term project |
| Systems thinking | Team term project |
| Teamwork and leadership | Team term project, debate |

Instructional Methods

The course will be divided into in-person class sessions (two per week) and supplemented with online lectures and content through a partially blended learning approach. The online content delivery will be through the course’s Canvas site.

In-Person/Synchronous Class Sessions

This course is based on a community-oriented instructional approach, where students are encouraged and expected to be invested in their learning. We will be approaching the course content in a collaborative manner, working to build our understanding through the appreciation of individual lived experiences, cultural backgrounds, professional training, and personal and collective group interests.

The in-person class sessions will focus on active learning approaches, using short lectures alongside interactive and discussion-based activities. Students are expected to be engaged during the class and participate in pair, small group, and class discussions and learning activities. The content delivery will include a series of activities such as short lectures, peer-peer interaction, small group activities, case studies, minute papers, debates, and similar.

We will have a number of guest speakers throughout the semester visiting us to share their knowledge in specific content areas or experiences related to our course content. These individuals are generously sharing their knowledge and experience with us and will conduct question-and-answer sessions. As such, the highest standards of behavior are expected, as we are representing ourselves, the college, and Gator Nation in these interactions. Inappropriate or unprofessional conduct may be a cause for immediate dismissal from the class session and proper procedures will be followed for accountability.

Blended Learning

What is blended learning and why is it important?

We will be using a partially blended approach in this course, with selected course content presented in advance of in-person sessions. A blended learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Portions of the course content will be provided online before the live classes take place. This is content knowledge that traditionally I would have presented during a live lecture. This lets me focus my face-to-face teaching on course discussions and activities designed to help you strengthen higher order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is critical for developing lifelong skills and for becoming a health professional for today and tomorrow.

What is expected of you?

You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

Description of Course Content

Topical Outline/Course Schedule

The course is divided into three main sections: drivers of, effects of, and approaches to climate change, environmental health, and public health. Course content will be in-person and online using a partially blended approach over the course of the 16 week semester using the following as a guide. Topics and guest speakers are tentative and subject to change. Advance notice will be provided to any changes in the course content or schedule as possible. Readings corresponding with each week are found in Course Syllabus Appendix A. Readings are tentative and may be adjusted as needed. Quizzes are presented as “quiz sets” in the course schedule, as the post-quiz for one week is due at the same time as the pre-quiz for the next week, excluding the final week. All quizzes are due at 8am on the listed date, excluding the post-quiz for the final week due December 9, 11:59pm.

| Week | Date(s) | Topic(s) and Objectives | Activities | Assignments |
|------|---------------|---|---|----------------|
| 1 | August 25, 27 | <p>Syllabus Discussion and Development of Course Ground Rules</p> <ul style="list-style-type: none"> -Syllabus, course activities, and course content discussion -Students and professor will work collaboratively to define expectations for course, conduct, timeliness/late policies, and interactions <p>↑</p> <p>Drivers: What are the drivers of climate change?</p> <ul style="list-style-type: none"> -Historical perspectives -Nature v. anthropogenic climate change -Climate change v. global warming – why terminology | Discussion – course ground rules and introduction to course | None this week |

| | | | | |
|----|-------------------------|--|--|---|
| | | matters | | |
| 2 | September 1, 3 | Drivers: What are the drivers of climate change? (continued) -Factors affecting climate change -Population growth and public health -Rate of change for the climate -Modeling and projections -What ice cores reveal -Policy changes, legislative, behavioral, social drivers, and similar direct connections to public health Other -How to read a scientific article -What is “evidence?” | Activity TBA | Quiz Set 1 Due I Class Semester Paper September 3 |
| 3 | September 8, 10 | Drivers : Energy generation and current infrastructure -Fossil fuels, nuclear energy, and sustainable energy generation -US power grid and energy distribution -Wastewater infrastructure -Connections to air quality, emissions, radiation, disease, outbreaks, occupational health and safety | Guest Speaker: Dr. Michelle Young, Environmental Engineer specializing in wastewater systems and treatment Topic: Climate Change and the Future of Wastewater Treatment | Quiz Set 2 Due I Class Term Project Te Due September Homework #1 [10 |
| 4 | September 15, 17 | Effects : Climate Change and Human Health -Communicable and noncommunicable diseases -Energy generation, emissions, and air quality -Environmental and social justice/injustices -Mental health | Guest Speaker – Dr. Song Liang ↑Topic: Climate Change and Disease Patterns | Quiz Set 3 Due I Class Semester Paper Research and O September 17 |
| 5 | September 22, 24 | Effects: Food security -Food and nutrition -Access to nutritious foods -Land use and agricultural changes -Alternative approaches to food production, food use and meatless movements, plant genetic modifications -Pollinators and food access -The human cost of agriculture (Case study: farmworkers and occupational health) | Guest speaker: ↑Dr. Andy Kane, researcher in environmental and aquatic systems ↑Topic: Oysters, climate change, and Gulf Coast communities | Quiz Set 4 Due I Class Term Project Co Scope, and Out September 22 Homework #2 [24 |
| 6 | September 29, October 1 | Effects: Biodiversity -Biodiversity resources, ecosystem services -Land use, change, and development -US land use, deforestation and land use change internationally -Human health, occupational health, human-nature connections -International biodiversity and land use agreements (Case Studies: Amazon Rainforest; Indonesia) | Guest speaker: Dr. Katie Feilen, Primatologist and Anthropologist Topic: Biodiversity and Land Use Changes in Indonesia | Quiz Set 5 Due I Class |
| 7 | October 6, 8 | Effects : Environmental Justice and Natural Disasters ↑-Adaptation, mitigation, and resilience -Exposure to climate change impacts -Socioeconomic status and individual/community resilience -Indigenous populations -Environmental justice and disaster impacts on health, safety, occupations | Guest speaker: Heather Damron, M.S., Gainesville Area Real Estate Agent Topic: Climate change and the real estate market – what home buyers and renters need to know | Quiz Set 6 Due I Class Semester Paper due October 8 |
| 8 | October 13, 15 | Effects : Economics, GDP, and the US and International Stock Markets -Estimations of current economic losses -Ecosystem services -Impacts on Gross Domestic Product, world GDP losses -Money and more money – businesses, stock market, and “green” trends -Economic impacts on public health, business impacts on environmental health | Guest speaker: Mr. Michael Agriesti, financial planner and stock market expert analyst Topic: Investment and the stock market, impacts of fossil fuels to renewables transition, individual and societal-level impacts | Quiz Set 7 Due I Class Term Project Fi Report Due Oct Homework #3 [|
| 9 | October 20, 22 | Effects and Approaches : Community-based issues and solutions -Impacts of climate change on communities -Community engagement strategies -Key principles of global health engagement and strategies, working with communities | Guest speaker: Captain Benny Blanco, Florida Bay Fishing Guide and TV Host, Florida Sportsman Watermen Topic: Effects of Climate Change on South Florida, Everglades Communities, and the Tourism Industry | Quiz Set 8 Due I Class Semester Paper Due October 22 |
| 10 | October 27 | Effects and Approaches : Rights of Nature | Activity (Thursday class) – | Quiz Set 9 Due I |

| | | | | |
|----|---|--|---|--|
| 10 | October 27, 29 | Effects and Approaches : Rights of Nature -Does nature have rights? Should it? -Restoration of natural carbon sinks -Protection of natural resources using human or “people-focused” values (anthropocentric versus ecocentric approaches) -Human-nature connections (OneHealth concept applications) | Activity (Thursday class) – Student Debate on Rights of Nature | Quiz Set 9 Due Class |
| 11 | November 3, 5 | Approaches : Climate Change Law and Policy -Corporate subsidies, household, business carbon footprint reductions -Carbon capture and sequestration -The insurance industry as regulators -Corporate governance and securities regulation -Impacts of strategies on communities, health, occupations | Activity TBA | Quiz Set 10 Due Class Homework #4 Due |
| 12 | November 10, 12 | Approaches : Why directions matter - top-down and bottom-up changes -National and International policies, treaties -Administrative and executive decisions -Global consensus, mandatory pledges to reduce GHGs -International law for enforcing country pledges -Grassroots and community-based movements -Directional impacts on communities, human health, environmental health | Activity TBA | Quiz Set 11 Due Class Term Project Section Report Due Nov |
| 13 | November 17, 19 | Approaches : Dignity, human rights, and national security -Dignity law -International human rights -Climate refugees and human health -Is climate change a national security issue? -Human rights and national security orientation impacts on human health and conflicts | Guest speaker – Maryam Jamshidi, JD, Assistant Professor of Law, Levin College of Law, UF Topic: Climate Change, National Security, and Human Security | Quiz Set 12 Due Class Semester Paper Submission Due |
| 14 | November 24 (No class November 26) | Approaches : Talking climate change -Why climate change is political -Individual and collective action -How to (productively) talk about climate change and similarly contentious topics in public, environmental, and global health -Strategies for finding common ground with conversation partners, collaborators, and stakeholders | Note: No Thursday class (US Thanksgiving) | Quiz Set 13 Due Class |
| 15 | December 1, 3 | Approaches : Putting it all together and where we go from here -Alternative energy - nuclear fuels (Case study: Yucca Mountain) -Renewable energy – wind, water, solar -Environmental and health impacts of alternative and renewable energy sources -Looking ahead to the future of public health, environmental health, and global health -Preparing for the poster session | Guest speaker TBA | Quiz Set 14 Due Class Term Project Final Posters Due for December 1 Term Project Final Report and Self Evaluations Due |
| 16 | December 8 | Term Project Presentations – Poster Session | | Quiz Set 15 Due Class, Post-Quiz 9, 11:59pm |

Course Materials and Technology

Course Materials

Textbook. There is no required textbook for this course.

Additional required readings. Posted within each module on the course website. Readings are also listed in the topical outline/course schedule table above. These are subject to change.

Technology

Hardware. Webcam and Microphone may be required for out-of-class activities. We may use laptop built in webcams and students may be required to move camera during use. Additional technical requirements are outlined at <http://publichealth.php.ufl.edu/tech/>

e-Learning in Canvas site. There will be an online site for this course in Canvas, the learning management system supported by the University. Log in at <https://lss.at.ufl.edu/> and go to course site for PHCXXXX: Climate Change and Environmental Health for the 99.99%, Fall 2020. Here, I will post the syllabus, out-of-class course content, assignments, and allow for discussions/chats among the students and course leaders. You will also turn in assignments through this site. Course-related emails are expected to be done through the Canvas system, not the instructor’s or TA’s @ufl.edu emails. This will eliminate any issues with students not getting emails due to connection problems. It will be your responsibility to check the site on a routine basis to keep up with announcements, emails, and

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course modifications.

For technical support related to course materials and links, please contact me and the online course coordinator (Truly Hardemon).
For technical support for this e-Learning in Canvas, please contact the UF Help Desk at:

- Available 24 hours a day, 7 days a week
- (352) 392-HELP - select option 2
- helpdesk@ufl.edu (email)
- helpdesk.ufl.edu (website)

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

Academic Requirements and Grading

Assignments

The graded course assignments will include pre-module quizzes, post-module quizzes, homework, a semester paper, and a group term project. Each of these will contribute to the final grade as outlined below.

Pre-Class Quizzes (15 quizzes, 150 points total, 15% of final grade, due 8am on assigned dates)

¶ As this is a partially blended class, selected course content and instruction will take place before the in-person sessions. As such, there will be low-stakes quizzes administered in Canvas on this content in advance of the course meetings, due 8am before first weekly session. You are responsible for reviewing the content presented and completing the quizzes before class. These are low-stakes quizzes, meaning they are frequent checks of your progress worth a comparatively small portion of your overall course score. However, they are an essential part of your learning and accountability in being prepared for class discussions. The format will be multiple choice, select multiple answers, fill-in, matching, and similar types of questions. The pre-class quizzes will focus on the material presented in Canvas before the weekly sessions, including readings and videos).

Post-Class Quizzes (15, quizzes, 150 points total, 15% of final grade, due 8am on assigned dates excluding final post-quiz due December 9, 11:59pm)

¶ Quizzes on the weekly course content will be posted following the second meeting of the week. They will be administered in the online course site in Canvas. The quizzes will be due at 8am before the first meeting of the following week. For example, the quiz will be made available during or before Friday afternoon of the content week and are due before the Tuesday meeting. These quizzes are low-stakes assessments designed to reinforce the content from the weekly lesson and build upon the pre-work and previous lessons. These quizzes are based on the learning design philosophy that small, frequent reinforcement of course content builds over time and can lead to lasting gains. The format will be multiple choice, select multiple answers, fill-in, short answer, matching, and similar types of questions. The content of the post-class quizzes will focus on the applications of the pre-class content, including the content presented in the lectures and by guest speakers.

Homework (50 points each, 20% of final grade, due September 10, September 24, October 15, November 5)

¶ Four homework assignments worth 50 points each will be assigned through the semester. Check the syllabus and Canvas for the most up-to-date information on the homework assignments. The purpose of the homework assignments is to demonstrate knowledge and apply the understanding of course concepts to new scenarios. The homework assignments will be case studies, writing assignments, problem-solving, and similar applications-based scenarios for students to apply the course concepts and demonstrate their learning. The homework will be submitted online through Canvas using text inputs or by uploading a Word Doc in Canvas.

Semester Paper (250 points, 25% of final grade, see table for due dates)

¶ Individually, students will select a topic from the course content and conduct in-depth research on this topic through scholarly literature searches, interviews (with instructor approval), and news/media coverage (as applicable). The purpose of this activity is for students to take ownership of a topic of interest to them personally and/or professionally.

The Semester Paper should be approximately 7-10 pages, typed, double spacing, using APA citation style in-text and with a reference list (or another consistent style related to the student's professional training, with approval of instructor). The Semester Paper and earlier submissions will be submitted by uploading text or a Word Doc to Canvas.

The Semester Paper will be scaffolded into a number of assignments through the semester. The students will work individually on this project, but provide feedback to their colleagues to create a supportive community-based learning environment. The rubric for the final submission for the Semester Paper can be found in Course Syllabus Appendix B. The Semester Paper will be broken down into the following:

| Semester Paper Activity (Individual Work) | Points | Due Date |
|---|-----------|--------------|
| Topic approval | 0 Points | September 3 |
| Background Research and Outline | 25 points | September 17 |
| First Submission | 50 points | October 8 |
| Peer Feedback | 50 points | October 22 |

| | | |
|------------------|---|-------------|
| Final Submission | 125 points | November 19 |
| TOTAL | 250 points (25% of final course grade) | |

Through this course, students are expected to provide effective peer feedback and constructive criticism to their colleagues. They are also expected to receive this same type of feedback and use it to improve their own work. This is designed as part of a key learning goal to simulate professional interactions and future workplace collaborations. Guidelines and instruction on effective peer feedback will be included as part of the training development in this course.

Term Project (250 points, 25% of final grade, see table for due dates)

Students will work in self-selected groups of 3-4 people on a project spanning the semester. This project is designed to be a creative and collaborative endeavor for the students on a topic of their choosing. With instructor approval, the students may design the project to be a report, communication strategy, policy analysis, community engagement activity, or similar. The length and format will depend on the activity and deliverable determined by the group and instructor at the time of the Team Contract, Project Scope, and Outline. For example, the community engagement activity may involve the implementation of an outreach project with a shorter write-up (3-5 pages) and supplemental materials (brochures, photos from activities, presentation slides, or similar), compared to a policy analysis, report, or communication strategy (generally 10-12 pages). The written portion of the project will be submitted through a text or Word Doc upload to Canvas.

This project is purposely open-ended for students to take ownership and creative direction of the work. Each group will work collaboratively with the instructor (and Teaching Assistant, if applicable) to design a suitable term project at an appropriate scale for completion during the semester.

The projects culminate in a two-part activity including a final report of activities conducted and a poster presentation. The poster presentation will occur during a scheduled class meeting, with additional optional time for invited university guests and friends to view posters.

The final reports and posters will be due in advance of the poster presentation. The posters will be submitted with a due date sufficient to allow for printing of the posters in advance of the poster session. Failure to meet the submission date will result in project groups not having a poster printed and will require they print individual sections on standard computer paper to use and an automatic 20% reduction in the final submission poster presentation grade. In this instance, student groups will be responsible for printing their own portions of the work on computer paper to use and present at the poster session. The posters will be submitted as a Canvas upload. Printing instructions will be distributed prior to the due date.

The term project will be scaffolded with project deliverables throughout the semester. These regular check-in points are designed so the students and instructor have regular contact and feedback to maintain communication throughout the semester. Rubrics for the final submission report and final submission poster session presentation can be found in Course Syllabus Appendix B.

| Term Project Activity (Team Collaboration) | Points | Due Date |
|--|-------------------|--|
| Team and Topic | 0 points | September 8 |
| Team Contract, Project Scope and Outline | 25 points | September 22 |
| First Progress Report | 25 points | October 13 |
| Second Progress Report | 25 points | November 10 |
| Self and Peer Evaluation | 25 points | December 1 |
| Final Submission Report | 75 points | December 1 |
| Final Submission Poster Session Presentation (includes poster and attendance/presentation at poster session) | 75 points | December 1 (poster due (poster session)) |
| TOTAL | 250 points | |

Grading

| Requirement | Due date – see Course Schedule | Points (% of final grade) |
|--------------------|--------------------------------|---------------------------------|
| Pre-Class Quizzes | Weekly, 15 through semester | 150 points (15% of final grade) |
| Post-Class Quizzes | Weekly, 15 | 150 points (15% of final grade) |

| | | |
|----------------|---|--|
| | through semester | |
| Homework | See course schedule, 4 through semester | 50 points each for 4 homework assignments (20% of final grade) |
| Semester Paper | Ongoing, scaffolded activities through semester | 250 points (25% of final grade) |
| Term Project | Ongoing, scaffolded activities through semester | 250 points (25% of final grade) |

Point system used (i.e., how do course points translate into letter grades).

| | | | | | | | | | | | |
|---------------------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Points earned | 93-100% | 90-92% | 87-89% | 83-86% | 80-82% | 77-79% | 70-76% | 67-69% | 63-66% | 60-62% | Below 60% |
| Letter Grade | A | A- | B+ | B | B- | C+ | C | D+ | D | D- | E |
| Approximate Point Ranges | 930-1000 | 900-929.9 | 870-899.9 | 830-860.9 | 800-820.9 | 770-799.9 | 700-769.9 | 670-699.9 | 630-669.9 | 600-629.9 | Below 600 |

The Bachelor of Public Health Program does not use C- grades.

This is the letter grade to grade point conversion table is shown below. Letter grade to grade point conversions are fixed by the University of Florida and cannot be changed.

| | | | | | | | | | | | | | | | |
|---------------------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|-----------|
| Letter Grade | A | A- | B+ | B | B- | C+ | C | D+ | D | D- | E | WF | I | NG | S- |
| Grade Points | 4.0 | 3.67 | 3.33 | 3.0 | 2.67 | 2.33 | 2.0 | 1.33 | 1.0 | 0.67 | 0.0 | 0.0 | 0.0 | 0.0 | 0. |

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at: <http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Course Policies

Late Assignments and Make Up Work

Course policies are a collaborative agreement between the students and the instructor. The course rules will be posted in Canvas.

Special Circumstances. In the event of exceptional situations that may interfere with your ability to perform an assignment or meet a deadline, contact the instructor as soon in advance of the deadline as possible. Such cases will be dealt on an individual, case-by-case basis.

Absences should be discussed with the instructor in advance when possible. Communication should be done using the message system in Canvas, not the instructor's ufl.edu email address. Late arrivals and early departures are discouraged, as they have the potential to disrupt the class. However, extenuating circumstances occur and sometimes these things are necessary. If necessary, please make such instances as minimally disruptive as possible out of courtesy to the rest of the class.

Please note: Any requests for make-ups due to technical issues should be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail the instructor and TA, as applicable, within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Make up Quizzes or Other Work

Make-up quizzes and other work will be determined on a case-by-case basis. Please send an email to the instructor through Canvas.

Please note: Any requests for make-ups due to technical issues should be accompanied by the UF Computing help desk (<http://helpdesk.ufl.edu/>) correspondence. You MUST e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance

All faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Attendance at all scheduled course activities is expected. Additionally, students will be responsible for additional out-of-class activities as part of a partially blended classroom environment (described above). Further, the assignments outlined will be completed outside of class. Students will be required to meet with their term project groups outside of class and may find it beneficial to attend other events or have additional scheduled meetings, depending on the topic selected by their working group outside of the in-person course.

or have additional scheduled meetings, depending on the topic selected by their working group outside of the in-person course meetings.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Student Expectations, Roles, and Opportunities for Input

Policies are tentative and subject to change with advance notice and collaborative discussion with students, as applicable.

Expectations Regarding Course Behavior

All members of the class community are expected to demonstrate professional behavior in all conduct, in-person/synchronous, asynchronous, and written. The expectations regarding course behavior are a collaborative agreement between the all of the students and the instructor (and TA, as applicable). This applies to discussion etiquette, in-person collaborations, and group work, interactions with guest speakers and community members, and beyond.

Cell phones and laptop use

Cell phone and laptop use are encouraged as it relates to the classroom work.

Recording devices

Recording devices are not to be used in class except in the cases where determined by letter from the Disabilities Services Office.

Communication Guidelines

The communication guidelines are a collaborative agreement between the all of the students and the instructor (and TA, as applicable). Email messages are expected to be sent through the Canvas system, not the instructor's or TA's UF email addresses. Students should expect a response within 1-2 business days, excluding weekends.

Announcements: Class announcements will be sent via the announcements tool in eLearning. Depending on your CANVAS notification settings, you may or may not be notified via email; you are responsible for all information in these announcements whether or not you see them in your email.

Further, please see the university's Netiquette Guidelines:

<http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

“ We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity .”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Online Faculty Course Evaluation Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/> . Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/> . Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/> .

Policy Related to Guests Attending Class

Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Please note that guests are **not** permitted to attend either cadaver or wet labs. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy: <http://facstaff.nhba.ufl.edu/services/resourceguide/getstarted.htm>

SUPPORT SERVICES

Accommodations for Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>

- Crisis intervention is always available 24/7 from:
Alachua County Crisis Center:

↑ (352) 264-6789

↑ <http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu

Appendix A: Reading List

↑ Reading assignments are listed by week and module. All readings are tentative and subject to change.

| Week | Date(s) | Topic(s) and Objectives | Readings and Resources |
|------|----------------|---|--|
| 1 | August 25, 27 | <p>Syllabus Discussion and Development of Course Ground Rules</p> <p>↑</p> <p>Drivers: What are the drivers of climate change?</p> <ul style="list-style-type: none"> -Historical perspectives -Nature v. anthropogenic climate change -Climate change v. global warming – why terminology matters | <p>The Royal Society and the US National Academy of Sciences. Climate change evidence & causes. https://royalsocietypublishing.org/doi/10.1098/rsos.190302</p> <p>Cook, D. 2020. How the term 'anthropocene' jumped from geoscience to hashtags – before most of us knew. https://theconversation.com/anthropocene-jumped-from-geoscience-to-hashtags-before-most-of-us-knew-what-it-meant-130130</p> |
| 2 | September 1, 3 | <p>Drivers: What are the drivers of climate change? (continued)</p> <ul style="list-style-type: none"> -Factors affecting climate change -Population growth -Rate of change for the climate | <p>The Royal Society and the US National Academy of Sciences. Climate change evidence & causes. https://royalsocietypublishing.org/doi/10.1098/rsos.190302</p> |

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|---|-------------------------|---|---|
| | | <p>Rate of change for the climate</p> <ul style="list-style-type: none"> -Modeling and projections -What ice cores reveal -Policy changes, legislative, behavioral, and social drivers | <p>Peach, S. 2020. 'How is climate change affecting region?' Yale Climate Connections. https://www.yaleclimateconnections.org/2020/0/change-affecting-winter-in-my-region/</p> <p>Yoho, R. 2019. Hope in discussing environmental Nature. 12(3), 107-111. Link .</p> |
| 3 | September 8, 10 | <p>Drivers : Energy generation and current infrastructure</p> <ul style="list-style-type: none"> -Industrial revolution to present -Fossil fuels, nuclear energy, and sustainable energy generation -US power grid and energy distribution -Wastewater infrastructure | <p>Ifran, U. 2015. Climate change is coming for U.S. infrastructure. Scientific American. https://www.scientificamerican.com/article/climate-changing-for-u-s-energy-infrastructure/</p> <p>U.S. Department of Energy. 2015. Climate change Energy Sector: Regional vulnerabilities and resilience Link . Read pages xii through 1-4.</p> <p>U.S. Department of Energy. 2015. Southeast. Climate change the U.S. energy sector: regional vulnerabilities and solutions. Summary in brief. https://www.energy.gov/sites/prod/files/2015/11</p> <p>Cronin, J., Anandarajah, G., & Dessens, O. (2018). Impacts on the energy system: a review of trends <i>Climatic change</i> , 151 (2), 79-93. https://link.springer.com/content/pdf/10.1007/s44.pdf</p> <p>York, R. (2012). Do alternative energy sources dis <i>Nature Climate Change</i> , 2 (6), 441-443. https://www.nature.com/articles/nclimate1451.r</p> |
| 4 | September 15, 17 | <p>Effects : Climate Change and Human Health</p> <ul style="list-style-type: none"> -Communicable and noncommunicable diseases -Energy generation, emissions, and air quality -Environmental and social justice/injustices -Mental health | <p>U.S. EPA. ND. Climate impacts on human health. https://archive.epa.gov/epa/climate-impacts/climate-human-health.html</p> <p>Vezzulli, L., Grande, C., Reid, P. C., Hélaouët, P., Et M. G., ... & Pruzzo, C. (2016). Climate influence on associated human diseases during the past half-century coastal North Atlantic. <i>Proceedings of the National Sciences</i> , 113 (34), E5062-E5071. https://www.pnas.org/content/pnas/113/34/E50</p> <p>Yale Climate Connections. 2020. To protect residents from wildfire smoke, some cities set up clean air shelters. https://www.yaleclimateconnections.org/2020/0/shelters-to-protect-residents-from-wildfire-smoke-audio</p> <p>Harrington, S. 2019. How climate change threatens public health? Yale Climate Connections. https://www.yaleclimateconnections.org/2019/0/change-threatens-public-health/</p> |
| 5 | September 22, 24 | <p>Effects: Food security</p> <ul style="list-style-type: none"> -Food and nutrition -Access to nutritious foods -Land use and agricultural changes -Alternative approaches to food production, food use and meatless movements, plant genetic modifications -Pollinators and food access -The human cost of agriculture (Case study: farmworkers) | <p>Brown, M. E., & Funk, C. C. (2008). Food security and climate change. <i>Science</i> , 319 (5863), 580-581. https://science.sciencemag.org/content/sci/319/</p> <p>Schmidhuber, J., & Tubiello, F. N. (2007). Global food production and climate change. <i>Proceedings of the National Academy of Sciences</i> 104 (50), 19703-19708. https://www.pnas.org/content/pnas/104/50/197</p> <p>U.S. EPA. 2017. Climate impacts on agriculture and food supply. https://archive.epa.gov/epa/climate-impacts/climate-agriculture-and-food-supply.html</p> <p>Johnston, P (interviewee) and O Patel (interviewer). 2020. The threat of climate change to South Africa's agriculture: A conversation. https://theconversation.com/pastel-of-climate-change-to-south-africas-agriculture-13-audio</p> |
| 6 | September 29, October 1 | <p>Effects: Biodiversity</p> <ul style="list-style-type: none"> -Biodiversity resources, ecosystem services -Land use change, and development | <p>Harvey, C. 2018. Climate change is becoming a threat to biodiversity. Scientific American. https://www.scientificamerican.com/article/climate-change-is-becoming-a-threat-to-biodiversity/</p> |

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| | | <p>-Land use, change, and development</p> <p>-US land use, deforestation and land use change internationally</p> <p>-International biodiversity and land use agreements (Case Studies: Amazon Rainforest; Indonesia)</p> | <p>https://www.sciencemag.org/article/2011/10/10/10.1126/science.1211111</p> <p>Chen, I. C., Hill, J. K., Ohlemüller, R., Roy, D. B., & (2011). Rapid range shifts of species associated with climate warming. <i>Science</i>, 333 (6045), 1024-1027. https://science.sciencemag.org/content/sci/333/6045/1024</p> <p>Dantas, T. 2018. How climate change affects biodiversity. Medium. https://medium.com/@thalesetd/how-climate-change-affects-biodiversity-loss-d6a93fb1a760</p> <p>Legagneux, P., Casajus, N., Cazelles, K., Chevallier, M., Guéry, L., ... & Ropars, P. (2018). Our house is on fire: a discrepancy in climate change vs. biodiversity coverage in media as compared to scientific literature. <i>Frontiers in Ecology and the Environment</i>, 5, 175. https://www.frontiersin.org/articles/10.3389/fenv.2018.00017</p> |
| 7 | October 6, 8 | <p>Effects : Environmental Justice and Natural Disasters</p> <p>↑-Adaptation, mitigation, and resilience</p> <p>-Exposure to climate change impacts</p> <p>-Socioeconomic status and individual/community resilience</p> <p>-Indigenous populations</p> | <p>Oliver-Smith, A. (2012). Debating environmental justice, nature and population displacement in the Global South. <i>Journal of International Development</i>, 24, 1058-1070. https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/dev.1211</p> <p>Yale Climate Connections. 2020. Hottest places in the world are often in low-income neighborhoods. https://www.yaleclimateconnections.org/2020/09/29/hottest-places-in-the-world-are-often-in-low-income-neighborhoods/</p> <p>Ahmed, S. 2020. Climate change impacts in Bangladesh: geography, wealth and culture affect vulnerability. <i>The Conversation</i>. https://theconversation.com/climate-change-impacts-in-bangladesh-show-how-geography-wealth-and-culture-affect-vulnerability-128207</p> |
| 8 | October 13, 15 | <p>Effects : Economics, GDP, and the US and International Stock Markets</p> <p>-Estimations of current economic losses</p> <p>-Ecosystem services</p> <p>-Impacts on Gross Domestic Product, world GDP losses</p> <p>-Money and more money – businesses, stock market, and “green” trends</p> | <p>Hoffman, A and E Hughes-Cromwick. 2018. Nobel Prize recognizes how economic forces can fight climate change. <i>The Conversation</i>. https://theconversation.com/nobel-prize-recognizes-how-economic-forces-can-fight-climate-change-127207</p> <p>Sinclair, P. 2020. Video: BlackRock CEO warns of climate risks to investors. Yale Climate Connections. https://www.yaleclimateconnections.org/2020/09/29/blackrock-ceo-warns-of-increasing-climate-risks-to-investors/ (article and 6 minute video)</p> <p>Alexander, S. 2020. I’ve seriously tried to believe the planet can coexist, but I’ve lost faith. <i>The Conversation</i>. https://theconversation.com/ive-seriously-tried-to-believe-the-planet-can-coexist-but-ive-lost-faith-128207</p> |
| 9 | October 20, 22 | <p>Effects and Approaches : Community-based issues and solutions</p> <p>-Impacts of climate change on communities</p> <p>-Community engagement strategies</p> | <p>Baldauf, M., Garlappi, L., & Yannelis, C. (2020). Do climate change concerns affect real estate prices? Only if you believe in it. <i>Financial Studies</i>, 33 (3), 1256-1295. https://academic.oup.com/rfs/article/33/3/1256/5811111</p> <p>Palm, R and TW Bolsen. 2020. ‘Sea level rise worries’ – even flood maps don’t sway Florida coastal residents. <i>The Conversation</i>. https://theconversation.com/sea-level-rise-worries-even-flood-maps-dont-sway-florida-residents-130433</p> <p>Hobbie, S. E., & Grimm, N. B. (2020). Nature-based solutions for managing climate change impacts in cities. <i>Philosophical Transactions of the Royal Society B</i>, 375 (1794), 20190307. https://royalsocietypublishing.org/doi/pdf/10.1098/rstb.2019.0307</p> <p>Rodríguez, I and M Inturias. 2020. Bolivia: contributions of indigenous people to fighting climate change is high. <i>The Conversation</i>. https://theconversation.com/bolivia-contributions-of-indigenous-people-to-fighting-climate-change-is-high-129399</p> <p>Linzey, T., & Brannen Jr, D. E. (2017). A Phoenix from the Ashes: Resurrecting a Constitutional Right of Local, Community Government in the Name of Environmental Sustainability. <i>Environmental Policy & Law</i>, 47 (1), 1-10. https://doi.org/10.1007/s11068-016-9211-1</p> |

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| 10 | October 27, 29 | <p>Effects and Approaches : Rights of Nature</p> <ul style="list-style-type: none"> -Does nature have rights? -Restoration of natural carbon sinks | <p>Stone, C. D. (2010). <i>Should trees have standing?: the environment</i> . Oxford University Press. Chapt have standing? Toward legal rights for natural ob available through UF library - https://ebookcentral.proquest.com/lib/ufl/detail)</p> <p>Mount, M. 2017. Can a river have legal rights? I of Colombia to find out. The Conversation. https://theconversation.com/can-a-river-have-le-the-jungles-of-colombia-to-find-out-84878</p> <p>Westerman, A. 2019. Should rivers have same le humans? A growing number of voices say yes. N https://www.npr.org/2019/08/03/740604142/sh-same-legal-rights-as-humans-a-growing-number-</p> |
| 11 | November 3, 5 | <p>Approaches: Climate Change Law and Policy</p> <ul style="list-style-type: none"> -Corporate subsidies, household, business carbon footprint reductions -Carbon capture and sequestration -The insurance industry as regulators -Corporate governance and securities regulation | <p>Stone, C. D. (2010). <i>Should trees have standing?: the environment</i> . Oxford University Press. Chapt climate have standing? (Chapters available throu https://ebookcentral.proquest.com/lib/ufl/detail)</p> <p>Sims Gallagher, K. 2018. State cap-and-trade sys evidence that carbon pricing can work. The Conv https://theconversation.com/state-cap-and-trade-evidence-that-carbon-pricing-can-work-101428</p> <p>Bradlow, D. 2019. Central banks are waking up t dangers. It’s about time. The Conversation. https://theconversation.com/central-banks-are-v-climate-change-dangers-its-about-time-122204</p> <p>Wood, M and MC Blumm. 2020. The dramatic di landmark youth climate lawsuit might not close tl case. The Conversation. https://theconversatio-dramatic-dismissal-of-a-landmark-youth-climate-close-the-book-on-that-case-130162</p> |
| 12 | November 10, 12 | <p>Approaches : Why directions matter - top-down and bottom-up changes</p> <ul style="list-style-type: none"> -National and International policies, treaties -Administrative and executive decisions -Global consensus, mandatory pledges to reduce GHGs -International law for enforcing country pledges -Grassroots and community-based movements | <p>Institute of Physics. 2017. The most effective ind tackle climate change aren’t being discussed. https://phys.org/news/2017-07-effective-individ-discussed.html</p> <p>Wood, T. 2020. Carbon pricing: it’s a proven wa emissions but everyone’s too scared to mention i Conversation. https://theconversation.com/car-proven-way-to-reduce-emissions-but-everyones-mention-it-132342</p> <p>Chan, G; R Stavins; Z Ji. 2018. International clima Annual Review of Resource Economics. 10:335-6 https://www.annualreviews.org/doi/pdf/10.1146-resource-100517-023321</p> |
| 13 | November 17, 19 | <p>Approaches : Dignity, human rights, and national security</p> <ul style="list-style-type: none"> -Dignity law -International human rights -Climate refugees and human health -Is climate change a national security issue? | <p>Cubie, D. (2014). Promoting dignity for all: Human approaches in the post-2015 climate change, disa and sustainable development frameworks. <i>Hum. Discourse</i> , 8 , 36.</p> <p>The Universal Declaration of Human Rights. Unit Assembly, Paris, 10 December 1948. General Ass 217A. https://www.un.org/en/universal-declar-rights/</p> <p>United Nations. ND. History of the Document. U Declaration of Human Rights. https://www.un.org/en/sections/universal-declar-document/index.html</p> <p>Liberman, B. 2019. A brief introduction to climat national security. Yale Climate Connections. https://www.yaleclimateconnections.org/2019/0-introduction-to-climate-change-and-national-sec</p> |

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| 14 | November 24 ↑(No class November 26) | Approaches : Talking climate change -Why climate change is political -Individual and collective action -How to (productively) talk about climate change and other contentious topics -Strategies for finding common ground with conversation partners, collaborators, and stakeholders | <p>Introduction to climate change and national security</p> <p>Berwyn, B. 2018. A year of climate change evidence science reporter's journal. Inside Climate News. https://insideclimatenews.org/news/24122018/evidence-reports-2018-year-review-ipcc-arctic-national-assessment</p> <p>Sommer, L. K., & Klöckner, C. A. (2019). Does active capacity to raise awareness in audiences?—A study change art at the ArtCOP21 event in Paris. <i>Psychology of Aesthetics, Creativity, and the Arts</i> . https://psycnet.apa.org/fulltext/2019-36639-001</p> <p>Lawson, D. F., Stevenson, K. T., Peterson, M. N., C Strnad, R. L., & Seekamp, E. (2019). Children can find change concern among their parents. <i>Nature Climate Change</i> (6), 458-462. https://faculty.cnr.ncsu.edu/nilspe/content/uploads/sites/17/2019/09/Lawson-et-al.</p> <p>Muller, D. 2020. Media 'impartiality' on climate is misguided and downright dangerous. The Conversation. https://theconversation.com/media-impartiality-change-is-ethically-misguided-and-downright-dar</p> <p>Climate Outreach. The #TalkingClimate Handbook conversations about climate change in your daily life. https://climateoutreach.org/resources/how-to-have-change-conversation-talking-climate/</p> <p>(looking ahead to developing the poster)</p> <p>Erren, TC; PE Bourne. 2007. Ten simple rules for presentation. <i>PLoS Computational Biology</i>. 3(5). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC</p> |
| 15 | December 1, 3 | Approaches : Putting it all together and where we go from here -Alternative energy - nuclear fuels (Case study: Yucca Mountain) -Renewable energy – wind, water, solar -Environmental and health impacts of alternative and renewable energy sources | <p>Capon, A. 2020. 222 scientists say cascading crisis threat to the well-being of future generations. The Conversation. https://theconversation.com/222-scientists-say-cascading-crisis-threat-to-the-well-being-of-future-generations-131551</p> <p>Power, A. To prepare climate strikers for the future, we need to rewrite the history books. The Conversation. https://theconversation.com/to-prepare-climate-strikers-for-the-future-we-need-to-rewrite-the-history-books-131551</p> <p>Levy, N. 2020. Climate change: how do I cope with an inevitable decline? The Conversation. https://theconversation.com/climate-change-how-do-i-cope-with-an-inevitable-decline-128593</p> |
| 16 | December 8 | Term Project Presentations – Poster Session | <p>University of Nebraska-Lincoln Office of Graduate Studies Presenting a research poster. Graduate Connections. https://www.unl.edu/gradstudies/connections/poster-research-poster</p> |

Appendix B: Rubrics

All rubrics are tentative and subject to change.

↑
The final semester papers will be assessed using the following rubric:

| Criteria | Exceptional (100%) | Accomplished (95%) | Emerging (85%) | Fair (70%) | No Marks (0%) |
|----------|--|---|--|--|--|
| Content | Meets and exceeds assignment expectations: ↑-Exceptional accurate and concise discussion of topic/issue ↑-Demonstrates exceptional | Meets basic assignment expectations: -Accurate and concise discussion of topic/issue ↑-Demonstrates understanding of topic/issues and application of course | Meets many/most of assignment expectations: -Mostly accurate and concise discussion of topic/issue ↑-Demonstrates sufficient understanding of topic/issues and | Meets few to some of the assignment expectations: -Partially accurate and/or somewhat concise discussion of topic/issue ↑-Demonstrates partial or limited understanding of | Assignment requirements not met, not addressed, and/or no work submitted |

| | | | | | |
|-------------------|--|--|---|--|--|
| | understanding of topic/issues and application of course concepts/themes | concepts/themes | application of course concepts/themes | topic/issues and application of course concepts/themes | |
| Critical Thinking | Meets and exceeds assignment expectations: -Demonstrates excellent critical thinking skills and depth of analysis in discussion of topic/issue -Applies course content in writing and analysis | Meets basic assignment expectations: -Demonstrates critical thinking skills and depth of analysis in discussion of topic/issue -Applies course content in writing and analysis | Meets many/most of assignment expectations: -Demonstrates some critical thinking skills and depth of analysis in discussion of topic/issue -Applies some course content in writing and analysis | Meets few to some of the assignment expectations: -Demonstrates limited critical thinking skills and depth of analysis in discussion of topic/issue -Limited application of course content in writing and analysis | Assignment requirements not met, not addressed, and/or no work submitted |
| Communication | Meets and exceeds assignment expectations: ↑-Demonstrates clear written communication throughout work, including citations of work and sources as applicable | Meets basic assignment expectations: ↑-Demonstrates sufficiently clear written communication throughout work, including citations of work and sources as applicable | Meets many/most of assignment expectations: ↑-Demonstrates mostly clear written communication throughout work, including citations of work and sources as applicable | Meets few to some of the assignment expectations: ↑-Demonstrates some clear written communication, including citations of work and sources as applicable | Assignment requirements not met, not addressed, and/or no work submitted |

The final submission report for the term project will be assessed using the following rubric:

| Criteria | Exceptional (100%) | Accomplished (95%) | Emerging (85%) | Fair (70%) | No Marks (0%) |
|------------------|--|--|---|---|--|
| Report Content | Meets and exceeds assignment expectations: -Exemplary accomplishments related to term project -Demonstrates excellent depth of understanding of concepts and scope of work -Excellent collaborative efforts -Excellent understanding of issues, influences, and cultural sensitivity | Meets basic assignment expectations: -Accomplishments meet term project expectations -Meets expectations for depth of understanding of concepts and scope of work -Meets expectations for collaborative efforts -Meets expectations for understanding issues, influences, and cultural sensitivity | Meets many/most of assignment expectations: -Accomplishments partially or mostly meet term project expectations -Meets many/most expectations for depth of understanding of concepts and scope of work -Meets many/most expectations for collaborative efforts -Meets many/most expectations for understanding issues, influences, and cultural sensitivity | Meets few to some of the assignment expectations: -Accomplishments work towards or meet few term project expectations -Meets few expectations for depth of understanding of concepts and scope of work -Meets few expectations for collaborative efforts -Meets few expectations for understanding issues, influences, and cultural sensitivity | Assignment requirements not met, not addressed, and/or no work submitted |
| Project Analysis | Meets and exceeds assignment expectations: -Exemplary depth of analysis -Applies course concepts and topics to analysis | Meets basic assignment expectations: -Meets basic expectations for depth of analysis -Applies course concepts and topics to analysis | Meets many/most of assignment expectations: -Meets many/most expectations for depth of analysis -Applies some course concepts | Meets few to some of the assignment expectations: -Meets few expectations on depth of analysis -Applies limited course concepts | Assignment requirements not met, not addressed, and/or no work submitted |

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|-------------------------|---|---|--|--|--|
| | -Exceptional use of and grounding of work in published literature | -Meets basic expectations for use of and grounding of work in published literature | and topics to analysis -Limited use of and grounding of work in published literature | and topics to analysis -Needs additional use of and grounding of work in published literature | |
| Communication and Style | Meets and exceeds assignment expectations: -Exceptional application of report style to discuss activities -Clear and concise discussion -Complete use of citation style throughout -Very limited to no errors | Meets basic assignment expectations: -Applies report style to discuss activities -Sufficiently clear and concise discussion -Application of citation style throughout -Limited to no errors | Meets many/most of assignment expectations: -Applies report style partially or completely to discuss activities -Mostly clear and concise discussion -Mostly complete application of citation style -Some errors | Meets few to some of the assignment expectations: -Limited application of report style to discuss activities -Somewhat clear and concise discussion -Limited application of citation style -Errors present | Assignment requirements not met, not addressed, and/or no work submitted |

The final submission poster presentation for the term project will be assessed using the following rubric:

| Criteria | Exceptional (100%) | Accomplished (95%) | Emerging (85%) | Fair (70%) | No Marks (0%) |
|--|--|--|---|---|--|
| Poster Content | Meets and exceeds assignment expectations: -Exceptional summary and representation of accomplishments -Proper attribution of work, reference use, visuals, as applicable -Accurate and without errors | Meets basic assignment expectations: -Summary and representation of accomplishments meet expectations -Proper attribution of work, reference use, visuals, as applicable -Accurate and without or with few errors | Meets many/most of assignment expectations: -Meets many/most expectations for summarizing and representing accomplishments -Mostly proper attribution of work, reference use, visuals, as applicable -Generally accurate and with few errors | Meets few to some of the assignment expectations: -Works towards meeting summary and representation of accomplishment expectations -Some proper attribution of work, reference use, visuals, as applicable -Some accuracy issues and/or errors | Assignment requirements not met, not addressed, and/or no work submitted |
| Poster Visual Presentation | Meets and exceeds assignment expectations: -Exceptional use of text, graphics, and visuals to represent work -Exceptional professional display | Meets basic assignment expectations: -Meets expectations for display of text, graphics, visuals to represent work -Display meets professional display expectations | Meets many/most of assignment expectations: -Meets many/most expectations for display of text, graphics, visuals to represent work -Display mostly meets professional display expectations | Meets few to some of the assignment expectations: -Works towards meeting expectations for display of text, graphics, visuals to represent work -Display works towards meeting professional display expectations | Assignment requirements not met, not addressed, and/or no work submitted |
| Poster Session Discussion (NOTE: Individual attendance required for poster session; graded at 0 without excused absence, following University | Meets and exceeds assignment expectations: -Excellent, succinct, and professional discussion -Professional interactions with poster session attendees | Meets basic assignment expectations: -Succinct and professional discussion -Professional interactions with poster session attendees | Meets many/most of assignment expectations: -Mostly succinct and professional discussion -Mostly professional interactions with poster session attendees | Meets few to some of the assignment expectations: -Discussion works towards succinct and professional conversation -Mostly professional interactions with poster session | Assignment requirements not met, not addressed, and/or no work submitted |

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| summary, guidelines) | | | | public session attendees | |
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External Consultation Results (departments with potential overlap or interest in proposed course, if any)

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External Consultation Results (departments with potential overlap or interest in proposed course, if any)

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| _____ | _____ |
| Comments | |
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| Department | Name and Title |
| _____ | _____ |
| Phone Number | E-mail |
| _____ | _____ |
| Comments | |
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