

PLAN 655: Planning for natural hazards and climate risk

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| Instructor Name | Professor Miyuki Hino | Meeting day | Tuesdays and Thursdays |
| Email | mhino@unc.edu | Meeting time | 2:00-3:15pm |
| TA | Nora Schwaller | Location | Woollen Gym 301 |
| TA Email | nschwall@live.unc.edu | | |
| Office Hours | MH: by appointment at https://calendly.com/miyukih NS: TBD | | |

COURSE SYLLABUS**Course Description**

This course is a graduate-level introduction to the human dimensions of natural hazards and climate change adaptation. It is also open to undergraduate juniors and seniors. What can we do to reduce the losses from floods, fires, and other extreme weather events? How can we minimize the impacts of climate change? The focus of this course is on understanding how governance – institutions, policies, politics, from individual to international scales – influences the risks that communities face.

This syllabus is subject to change. I will try to make any changes as early as possible.

Learning Objectives

By the end of the course, students should be able to:

- [1] Describe how governance systems in the US affect natural hazard risk management
- [2] Evaluate an existing hazard mitigation/climate change adaptation plan
- [3] Design strategies to prioritize equity in climate change adaptation, disaster preparedness, and recovery

Pre-requisites

To succeed in this course, students should:

- ▶ Have prior training or experience in using spreadsheets, MS Excel and MS Word.
- ▶ Helpful, but not required: familiarity with software to manage spatial data (e.g. QGIS, Arc, R)

Course Materials

Required text: All course materials will be posted on Sakai.

Class Format

At the time of writing, this course will be taught fully in-person. As long as it is possible to do so safely, we will be meeting in person this semester. I understand the ongoing COVID-19 pandemic may require changes to this plan and will be monitoring the situation closely. If I need to change the format of the course temporarily due to outbreaks of illness, I will announce this via email and the course Sakai site.

All enrolled students are required to wear a mask covering your mouth and nose at all times in our classroom. This requirement is to protect our educational community — your classmates and me — as we learn together. If you choose not to wear a mask, or wear it improperly, I will ask you to leave immediately, and I will submit a report to the [Office of Student Conduct](#). At that point you will be disenrolled from this course for the protection of our educational community. Students who have an authorized accommodation from Accessibility Resources and Service have an exception. For additional information, see [Carolina Together](#).

Classes will be recorded and posted online shortly afterward. If you miss class, you are expected to watch the recording and complete any in-class activities on your own in your Teams notebook.

In this class, we will have:

- ▶ **Readings, podcasts, and other material to be reviewed on your own time before class.** All of the material will be posted on Sakai.
- ▶ **Lecture.** To organize material from the readings and related sources in a systematic fashion and to supplement it with additional background and examples.
- ▶ **Discussion.** Come to class ready to discuss the readings. You are encouraged to contribute examples from your own work experience, questions, clarifications, comments, and discussion points throughout the course. In-class activities will sometimes require use of online tools such as Google Docs and Poll Everywhere, so please come to class prepared with a laptop.
- ▶ **Individual and group assignments.** Additional details will be provided.

Assignments and Grading

Your course grade will consist of:

- ▶ **Group case study and presentation**
 - Working in small groups, students will analyze how governance systems, policies, and politics are affecting a current climate risk management challenge or a recent disaster response challenge. Additional details will be provided.
 - The in-class presentations will occur during three class sessions in mid-February.
- ▶ **Cross-case reflection essay**
 - After the group presentations are complete, each student will individually write a synthesis essay comparing and contrasting the cases presented. Additional details will be provided.
- ▶ **Plan evaluation / policy memo**
 - Students will individually select a government agency, evaluate what they have done thus far with regard to disaster/climate change preparedness, and identify next steps. Additional details will be provided.
 - This assignment will also include a peer review, in which you will trade drafts with a partner and provide each other feedback.
 - This assignment can be completed as a presentation or as a paper.
- ▶ **Participation**
 - For each class session, there will be a combination of readings, lectures, and other material to review. This material must be read/listened to/watched before the start of class.
 - Class will be highly interactive, and both the quantity and quality of your contributions will count toward your participation grade (which is worth 15% of your total grade). Participation includes both speaking in class and completing in-class writing exercises.
 - Excessive absences will affect your participation grade. However, **I encourage everyone to be proactive and cautious regarding any symptoms or potential Covid exposures. Your engagement while you are in class is more influential than your attendance record.**

Late assignments will be penalized 5% per day. If you contact me more than 24 hours before the deadline with a request for an extension, I will consider it. Within 24 hours, I will not.

Each graded component will contribute to the final grade as follows:

| | Due Date | % Grade |
|-------------------------------|--------------|---------|
| Group case study | Mid February | 25% |
| Cross-case reflection | March 1 | 20% |
| Participation | | 15% |
| Plan evaluation / policy memo | May 2 | 40% |

Final grades will be assigned as follows:

| Undergraduate Grade | | | | Graduate Grade |
|---------------------|-----|----|------|----------------|
| A | 94% | to | 100% | High Pass |
| A- | 90% | to | 93% | |
| B+ | 87% | to | 89% | Pass |
| B | 84% | to | 86% | |
| B- | 80% | to | 83% | |

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| C+ | 77% | to | 79% | |
| C | 74% | to | 76% | |
| C- | 70% | to | 73% | |
| D+ | 67% | to | 69% | |
| D | 60% | to | 66% | Low Pass |
| F | 0% | to | 59% | Fail |

Approved Absences

Any request for an approved class absence must be approved by the University Approved Absence Office attendance.unc.edu. No right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

- ▶ Authorized University activities
- ▶ Disability/religious observance/pregnancy, as required by law and approved by Accessibility Resources and Service and/or the Equal Opportunity and Compliance Office (EOC)
- ▶ Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the Equal Opportunity and Compliance Office (EOC).

Absences due to your own health, potential exposures to Covid, and caretaking related to Covid are approved absences, and you do not need any UAA approval. Please do not take any risks with your own health or that of your classmates. As noted in the participation policy above, those absences will not negatively affect your grade as long as we know about them.

Please communicate with the instructors *early* about any absences from class. We understand that emergencies happen and that life is especially unpredictable during a pandemic, so please get in touch if you expect to be missing a class.

Honor Code

The Honor Code of the University of North Carolina at Chapel Hill states:

“It shall be the responsibility of every student at the University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student, or academic personnel acting in an official capacity.”

I will report any honor code violation to the [Office of Student Conduct](#).

For this course:

- ▶ You are permitted and encouraged to seek advice and suggestions from other class members on the written assignments, unless specifically instructed otherwise. This may include exchanging drafts for feedback and/or proofreading.
- ▶ In all written and presented work, you must cite or otherwise fully attribute all ideas, data, and other information that are not your own. This includes information presented in tables, graphs, appendices, etc.

Safety at Carolina

I care about your safety and recognize that you cannot fully commit to this course if you do not feel safe.

If you are impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking, I encourage you to seek resources on campus or in the community.

Please contact the following campus resources to discuss your specific needs:

- ▶ Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu)
- ▶ Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu)
- ▶ Counseling and Psychological Services (caps@unc.edu; confidential)
- ▶ Gender Violence Services Coordinators (gvsc@unc.edu; confidential)
- ▶ Additional resources are available at safe.unc.edu

I value the perspectives of individuals from all backgrounds reflecting the diversity of our students and my goal is to create a **safe space for everyone in this class**. I broadly define diversity to include race, gender identity,

national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. **Please let me know if there is anything I can do to improve. I appreciate suggestions.**

Accessibility

The University of North Carolina – Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services for students with disabilities, chronic medical conditions, temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities. All accommodations are coordinated through the Accessibility Resources and Service Office.

If you need accommodations, please contact ARS as early in the semester as possible.

- ▶ Visit accessibility.unc.edu
- ▶ Call 919-962-8300
- ▶ Email accessibility@unc.edu

Resources

Our purpose as professors is to help you to excel in this learning environment. Should you need further assistance beyond the help of the professor, please consult the following on-campus resources:

- ▶ **The Writing Center** provides one-on-one assistance to students. To make an appointment, browse the Writing Center's online resources, or submit a draft online. They have additional useful information, such as handouts on how to cite online. writingcenter.unc.edu
- ▶ **The Learning Center** offers individual consultations, peer tutoring, academic coaching, test prep programming, study skills workshops, and peer study groups. learningcenter.unc.edu
- ▶ **Campus Health** provides ambulatory primary medical care, mental health services and wellness programs along with selected specialty services. campushealth.unc.edu

Course outline

| Date | Topic | Material (TENTATIVE – Check Sakai for updated material) |
|-------------|--|---|
| 11-Jan | Intro | None |
| 13-Jan | Foundations of adaptation / disaster risk management | Cannon, 1994. Vulnerability analysis and the explanation of natural disasters IPCC Special Report on Extreme Events, Sections 1.12 to 1.122. |
| 18-Jan | Federal government | American Planning Association, 2004. Planning for Post-Disaster Recovery, Chapter 4 Aftermath - episode from the Throughline podcast |
| 20-Jan | Federal government | Government Accountability Office 2019. Disaster Resilience Framework |
| 25-Jan | Federal government | Howell and Elliott, 2018. Damages Done: the longitudinal impacts of natural hazards on wealth inequality in the United States |
| 27-Jan | State governments | TBD |
| 1-Feb | Local/tribal governments | Progress for Who? Episode from Broken Ground podcast Lake, 2020. Returning fire to the land. |
| 3-Feb | Group work day | None |
| 8-Feb | Local/tribal governments | Nalau et al, 2015. Is adaptation a local responsibility? |
| 10-Feb | Presentations | None |
| 15-Feb | Presentations | None |
| 17-Feb | Presentations | None |
| 22-Feb | Guest speaker - NOAA Climate Program Office | TBD |
| 24-Feb | private sector + communities | Hendricks et al, 2018. The development of a participatory assessment technique for infrastructure: Neighborhood-level monitoring towards sustainable infrastructure systems Mckenna, 2016. If Waffle House is Closed, It's Time to Panic |
| 1-Mar | Int'l governance | Vulturius and Davis, 2016. Defining loss and damage |
| 3-Mar | Intro to adaptation / hazard mitigation planning | Shi et al., 2015. Explaining progress in climate adaptation planning across 156 US municipalities. |
| 8-Mar | Intro to adaptation / hazard mitigation planning | Anguelovski et al., 2016, Equity impacts of urban land use planning for climate adaptation. Hardy et al., 2017, Racial coastal formation: the environmental injustice of colorblind adaptation planning for sea level rise+J19 |
| 10-Mar | Plan quality | Woodruff and Stults, 2016. Numerous strategies but limited implementation guidance in US local adaptation plans. |
| 22-Mar | Risk assessment | FEMA Local Mitigation Planning Handbook, Chapter 5. Climate Impacts Group - Preparing for Climate Change, Chapters 8 and 9. |

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| 24-Mar | Guest speakers - Miami-Dade Office of Resiliency | TBD |
| 29-Mar | Risk assessment | ART, 2012. Addressing social vulnerability and equity in adaptation planning. |
| 31-Mar | Option evaluation | FEMA Local Mitigation Planning Handbook, Chapter 6. Climate Impacts Group – Preparing for Climate Change, Chapter 10. |
| 5-Apr | Option evaluation | Hallegatte, 2009. Strategies to adapt to an uncertain climate change. |
| 7-Apr | Monitoring and evaluation | Ford et al., 2013. How to Track Adaptation to Climate Change: A Typology of Approaches for National-Level Application |
| 12-Apr | Monitoring and evaluation | Berrang-Ford et al, 2021. A systematic global stocktake of evidence on human adaptation to climate change |
| 14-Apr | wellness day | None |
| 19-Apr | Comparison to other countries | The Daily Podcast - what does it mean to save a neighborhood? |
| 21-Apr | Peer feedback | None |
| 26-Apr | Wrap up | |