

Course Syllabus
University of Kansas
School of Public Affairs and Administration
Urban Planning Program
Summer 2020

UBPL 502/802: Planning for Climate Change and Disasters

Instructor:

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Course Summary:

This course covers planning for climate change and disasters. Floods, heat waves, droughts, extreme storms, sea level rise, and the wide range of other climate-related hazards are (or soon will) impact virtually every aspect of the social, economic, and environmental systems on which we all depend. While the challenges of making our communities more sustainable and resilient are daunting, innovative plans, policies, programs, and projects are being developed and implemented all around the world. This course will cover four main topics: 1) the basic science and concepts of climate change and disasters, 2) learning from decades of knowledge about planning for natural hazards, 3) mitigating climate change by reducing greenhouse gas emissions, and 4) adapting to the impacts of climate change. Each topic will be addressed primarily at the local (city, county or regional) scale, with a primary focus on planning in the United States.

Learning Objectives:

The primary purposes of this course are to:

- 1) Gain an overview of the scientific basis relevant to planning for climate change and disasters
- 2) Develop familiarity with core concepts, principles and leading-edge innovations for climate change planning; and
- 3) Apply techniques of planning for climate change to build skills applicable in practice.

Readings:

There is one required textbook for the course:

- Boswell, Michael R., Adrienne I. Greve, and Tammy L. Seale. *Climate Action Planning: A Guide to Creating Low-Carbon, Resilient Communities*. Island Press, 2019.

All other readings are available through the course blackboard page.

Format:

The format of the course is online, using Blackboard as the primary interface for interacting with the material, the instructor, and other students. The course is structured around four modules. Throughout the course, each student will work independently to produce a climate change planning document for a city of their choosing located in eastern Kansas or western Missouri.

Each module consists of four main components: 1) reading assigned material, 2) development of an illustrated glossary of terms that summarizes key concepts for a lay audience, 3) an annotated bibliography of additional resources located for their independent project and 4) components of their individual climate change planning document.

Modules

The course is designed around four modules that address:

1. Introduction to climate change, hazards, and disasters
2. Translating what we know from hazards and disasters planning to climate change
3. Climate change mitigation
4. Climate change adaptation

Incompletes

The Faculty Handbook (F-6) outlines the Grade of Incomplete in the following way:
“The Grade of I should not be used when a definite grade can be assigned for the work done. It shall not be given for the work of a student in any course except to indicate that some part of the work has, for good reason, not been done, while the rest has been satisfactorily completed”

Academic Misconduct

Students should be aware of the University rules regarding academic misconduct (which includes plagiarism). These may be found at: <https://documents.ku.edu/policies/governance/USRR.htm#art2sect6>

Students with Disabilities

Any student who has a disability that may prevent the fullest expression of abilities should contact me personally as soon as possible so that we can discuss accommodations necessary to ensure full participation and to facilitate the educational opportunity.

Religious Holidays

If any scheduled assignment conflicts with a mandated religious observance, a student should contact me immediately to arrange a revised deadline on a mutually acceptable date.

KU Writing Center

The KU Writing Center offers a variety of service to help students improve their writing. Check out their web site at: <http://www.writing.ku.edu/>. You can receive peer consulting on your work, as well as on-line feedback to work submitted via email. They are a great resource, so please check them out!

Grading:

Grades will be calculated based on the following components.

	Percentage
1) Individual Performance	
a) Final paper	40%
b) Weekly progress on final paper	30%
c) Review of peer documents	10%
2) Team Performance	
a) Team illustrated glossary	10%
b) Team annotated bibliography	10%

Teams:

The teams for this class will be different than for an in-class format. Students will work in pairs to complete two team assignments and to give each other peer review on weekly progress on the final paper. Pairs will be assigned by me. The intent is to match individuals to promote mutually beneficial exchange (e.g. substantive feedback that pushes your partner to grow intellectually and professionally), rather than end up with ‘even’ teams that compete with each other. As such, I will use my knowledge of each student to create pairs that I believe will help each student. As indicated elsewhere in the syllabus, the team portion of the class can all be done via email exchanges and/or using a shared document application like Google Docs or what is available through Blackboard. There is no requirement that teams meet (in-person or virtually), though you are certainly welcome to meet in person, Zoom, Skype, or otherwise interact.

Brief explanations of Course Components:

Final paper: Your main task for the class is to produce a ‘real world’ climate change planning document. In essence, you will function as a consultant hired by a city of your choosing that is considering initiating a climate change planning process. Your task will be to provide a professional-quality document that will 1) consolidate and summarize existing information and resources available to the community – and, importantly, your own ideas - for climate change planning and 2) provide a targeted work plan for completing a full climate change plan. My goal is that your document will be suitable for inclusion in a professional portfolio you can share with potential employers. More detailed guidelines for the document are provided on the course Blackboard page. The final paper is **due July 24th by 11:59 pm.**

Weekly progress on paper: By midnight each Sunday you will submit (via email and/or Blackboard) to Ward Lyles and your assigned partner the portion of your paper that corresponds to the learning objectives and readings for the week.

Review of peer documents: By midnight on Tuesday each week, you will submit (via email and/or Blackboard) to Ward Lyles and your assigned partner comments on your partner's document turned in the previous Sunday (i.e. 48 hours earlier).

Team annotated bibliography: By midnight Thursday July 2nd you need to submit (via Blackboard, Google Docs or another shared platform agreed to by your team) an annotated bibliography of at least 6 key resources you have found (i.e. a citation for the resource and a 1-3 sentence explanation of why it is valuable for climate change planning). Then, by midnight on Saturday (July 4th), your team needs to correspond, decide on which resources are most valuable, and submit (via Blackboard) to Ward Lyles your team's annotated bibliography as a single file. These annotated bibliographies also will become appendices for your final papers and, hopefully, will be valuable resources in future courses and your professional career. In course documents, you can see examples of previous years' teams' annotated bibliographies. You may include some of the same sources, but you may not copy the previous teams' annotations.

Team illustrated glossary: By midnight Thursday July 9th you need to submit (via Blackboard, Google Docs or another shared platform agreed to by your team) an illustrated glossary of at least 10 key terms (i.e. an image and caption that explains to a lay audience a core concepts for the module). Then, by the following midnight on Saturday (July 11th), your team needs to look at each others' images, decide on which images to compile in a set of images that convey the core concepts of the module, and submit (via Blackboard) to Ward Lyles your team illustrated glossary as a single file. Your illustrated glossaries will become appendices for your final papers and, hopefully, will be valuable resources in future courses and your professional career.

Course Assignment Due Dates:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28 th	29 th Course Starts	30 th	1 st	2 nd Individual Annotated Bibliography	3 rd	4 th Team Annotated Bibliography
5 th Paper Section 1	6 th	7 th Review of Peer Paper Section 1	8 th	9 th Individual Glossary	10 th	11 th Team Glossary
12 th Paper Section 2	13 th	14 th Review of Peer Paper Section 2	15 th	16 th	17 th	18 st
19 nd Paper Section 3	20 th	21 st Review of Peer Paper Section 3	22 nd	23 rd	24 th Final Paper Due	

Course Schedule:

The following schedule is subject to change. Notification will be provided as soon as possible regarding any changes.

MODULE 1: Introduction to climate change and disasters

Topics to be covered in Module 1 include:

1. The physical science basis of global climate change
2. Global climate change impacts, vulnerability and adaptation
3. Global climate change mitigation
4. Climate change impacts in the United States

Learning objectives for Module 1 include being able to:

1. Identify the core concepts and principles related to climate change and disasters
2. Understand the role of planning in general, and land use planning in particular for long-term risk reduction
3. Develop ability to translate your understanding of basics of planning for climate change for a lay audience in widely understandable terms and images
4. Develop skills in building resources for climate change planning

Required Readings:

- IPCC Fifth Assessment Report: The Physical Science Basis – Summary for Policymakers
- IPCC Fifth Assessment Report: Impacts, Adaptation and Vulnerability – Summary for Policymakers
- IPCC Fifth Assessment Report: Mitigation of Climate Change – Summary for Policymakers
- US National Climate Assessment: Climate Change Impacts in the United States Chapters 1 and 2 (pages 12 to 59 of pdf)
- Boswell, Michael R., Adrienne I. Greve, and Tammy L. Seale. *Climate Action Planning: A Guide to Creating Low-Carbon, Resilient Communities*. Island Press, 2019. (Chapters 1-3)
- Videos in Module 1 folder

Required Tasks:

Final Paper

- Look over the examples of final projects from previous years' students.
- Select city that you want to focus on for your project. A key requirement is that the city has not undertaken much in the way of climate change planning to date, which is almost every city in Kansas and Missouri. Let Ward know by July 1st. (Previous students have found picking a city that has a comprehensive plan and a hazard mitigation plan to be helpful. If you want help picking a city or you want to pick a city farther from Lawrence, please contact Ward ASAP).
- Draft 1 - 2 page summary of your city that will provide the context for climate change planning. See final project assignment description on Blackboard for details. **Due to peer reviewer and Ward by midnight Sunday July 5th**. The peer reviewer will provide feedback **by midnight July 7th**.

Annotated bibliography

- On your team's shared document (using Blackboard, Google Docs or other sharing program) add at least 6 key resources you have found that you think will be helpful for communities, especially those in eastern KS and western MO. For each resource, provide 1-3 sentence explanation of why the resource could be valuable. **Due to team document by midnight July 2th and team document due on Blackboard by midnight Saturday July 4th**.

Suggested Tasks:

Reading and illustrated glossary:

- Make notes of key concepts and principles for planning for climate change and hazards.

- Make notes of visuals (pictures, charts, tables, diagrams, etc.) that are valuable for communicating the key concepts and principles

MODULE 2: Translating what we know from hazards and disasters planning to climate change

Topics to be covered in Module 2 include:

1. Natural hazards, disasters, land use and sustainability
2. Natural hazard mitigation – planning and politics
3. Lessons for climate change planning from natural hazards planning

Learning objectives for Module 1 include being able to:

1. Identify the core concepts and principles related to natural hazards, disasters, land use and sustainability
2. Understand the role of planning for long-term hazard risk reduction
3. Develop ability to translate your understanding of hazards planning for a lay audience in widely understandable terms and images
4. Develop skills in translating resources for natural hazard mitigation planning for climate change planning

Required Readings:

- Burby, R.J. 1998 *Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities*. Washington, DC: Joseph Henry/National Academy Press. Chapters 1, 4, 5, 8 and 9.
- Prater, Carla S., and Michael K. Lindell. "Politics of hazard mitigation." *Natural Hazards Review* 1.2 (2000): 73-82.
- Blanco, Hilda, et al. "Hot, congested, crowded and diverse: Emerging research agendas in planning." *Progress in Planning* 71.4 (2009): 153-169.
- Berke, Philip, and Ward Lyles. "Public Risks and the Challenges to Climate-Change Adaptation: A Proposed Framework for Planning in the Age of Uncertainty." *Cityscape* (2013): 181-208.
- Videos in Module 2 folder

Required Tasks:

Reading and illustrated glossary:

- On your team's shared document add illustrated glossary for 10 key concepts from the first two modules by **July 9th at midnight**. Your team will turn in a collaborative illustrated glossary by **July 11th at midnight on Blackboard**. The glossary should have at least 20 concepts but not more than 50 concepts. Formatting should be uniform and attractive so that each team member can include the illustrated glossary as an appendix to her/his final paper. [It might be advantageous to come up with a team template before starting on the individual terms.]

Final Paper

- Draft 1-2 page section summarizing why it is important to plan for hazards and climate change. **Due to peer reviewer and Ward by midnight Sunday July 12th**. Peer reviewer will provide feedback **by midnight July 14th**.

Suggested Tasks:

Reading and illustrated glossary:

- Make notes of key concepts and principles for planning for hazards and disasters.
- Make notes of visuals (pictures, charts, tables, diagrams, etc.) that are valuable for communicating the key concepts and principles.

Final Paper

- Revise 1-2 page summary of your city that will provide the context for climate change planning based on feedback from Ward and peer reviewer.

MODULE 3: Climate change mitigation

Topics to be covered in Module 1 include:

1. Local climate change mitigation
2. Greenhouse gas emission inventories
3. Emissions reduction strategies
4. Current state of local climate mitigation planning in the United States

Learning objectives for Module 1 include being able to:

1. Identify the core concepts and principles related to climate change mitigation planning
2. Understand the role of planning for inventorying greenhouse gas emissions and reducing emissions
3. Develop ability to translate your understanding of climate change mitigation planning for a lay audience in widely understandable terms and images
4. Develop skills in building resources for climate change mitigation planning

Required Readings and Videos:

- Boswell, Michael R., Adrienne I. Greve, and Tammy L. Seale. *Climate Action Planning: A Guide to Creating Low-Carbon, Resilient Communities*. Island Press, 2019. (Chapters 4-5)
- Wheeler, Stephen M. "State and municipal climate change plans: the first generation." *Journal of the American Planning Association* 74.4 (2008): 481-496.
- Bassett, Ellen, and Vivek Shandas. "Innovation and climate action planning: Perspectives from municipal plans." *Journal of the American Planning Association* 76.4 (2010): 435-450.
- Videos in Module 3 folder

Required Tasks:

Final Paper

- Draft rough Greenhouse Gas Emissions estimate section, climate change mitigation Goals, Policies, and Implementation section, and section summarizing climate change mitigation work plan. See final project assignment description on Blackboard for details. **Due to peer reviewer and Ward by midnight Sunday July 19th**. Peer reviewer will provide feedback **by midnight July 21st**.

Suggested Tasks:

Reading and illustrated glossary:

- Make notes of key concepts and principles for climate change mitigation planning.
- Make notes of visuals (pictures, charts, tables, diagrams, etc.) that are valuable for communicating the key concepts and principles

MODULE 4: Climate change adaptation

Topics to be covered in Module 1 include:

1. Local climate change adaptation
2. Climate change impacts in the United States
3. Climate impact risk reduction strategies

Learning objectives for Module 1 include being able to:

1. Identify the core concepts and principles related to climate change adaptation planning
2. Understand the role of planning for projecting climate impacts and reducing long-term risks
3. Develop ability to translate your understanding of climate change adaptation planning for a lay audience in widely understandable terms and images
4. Develop skills in building resources for climate change adaptation planning

Required Readings:

- Boswell, Michael R., Adrienne I. Greve, and Tammy L. Seale. *Climate Action Planning: A Guide to Creating Low-Carbon, Resilient Communities*. Island Press, 2019. (Chapters 6-7)
- Preston, Benjamin L., Richard M. Westaway, and Emma J. Yuen. "Climate adaptation planning in practice: an evaluation of adaptation plans from three developed nations." *Mitigation and Adaptation Strategies for Global Change* 16.4 (2011): 407-438.
- Bierbaum, Rosina, et al. "A comprehensive review of climate adaptation in the United States: more than before, but less than needed." *Mitigation and Adaptation Strategies for Global Change* 18.3 (2013): 361-406.
- Schrock, Greg, Ellen M. Bassett, and Jamaal Green. "Pursuing Equity and Justice in a Changing Climate Assessing Equity in Local Climate and Sustainability Plans in US Cities." *Journal of Planning Education and Research* (2015): 0739456X15580022.
- Woodruff, Sierra C., and Missy Stults. "Numerous strategies but limited implementation guidance in US local adaptation plans." *Nature Climate Change* (2016).

Required Tasks:

Final Paper

- In addition to revising your earlier draft sections, you need to write a section addressing climate change adaptation Goals, Policies, and Implementation and summarizing a climate change adaptation work plan. This section will not go through the peer review process, although if you finish your draft early, Ward will be glad to look at it and get feedback to you.

Final Paper Due to Ward at 11:59 PM July 24th (online via Blackboard preferred; email ok)