



2021

Understanding Food and Climate Change: A Systems Perspective

Megan Brockelbank

University of Massachusetts Amherst, mbrockelbank@umass.edu

Follow this and additional works at: https://scholarworks.umass.edu/sustainableumass_educationresources



Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Social Justice Commons](#)



This work is licensed under a [Creative Commons Attribution 4.0 License](#).

Brockelbank, Megan, "Understanding Food and Climate Change: A Systems Perspective" (2021). *Sustainability Education Resources*. 49.

Retrieved from https://scholarworks.umass.edu/sustainableumass_educationresources/49

This Article is brought to you for free and open access by the Sustainable UMass at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Sustainability Education Resources by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

Understanding Food and Climate Change: A Systems Perspective NATSCI-191-02

Fall 2020 Syllabus – 1 Credit Seminar – Thursdays 4-4:50pm

Instructor

Megan Brockelbank

Phone

413-522-0079

Email

mbrockelbank@umass.edu

Office Location

Virtual Office link:

<https://umass-amherst.zoom.us/j/97061194805>

Office Hours

11:30-1pm Friday or by appointment.

Course Overview

Climate change will profoundly affect our lives in many ways, even down to the very food we eat. Food is essential for survival and our complex food system, and all that depends on it, face a big threat with climate change. Throughout the semester we will explore the links between the food system and our changing climate with an emphasis on systems thinking. In science we tend to segregate, looking at just one part of a system, while systems thinking looks at the whole picture. Using this approach, we will think critically about how to build a more resilient food system, considering everything from what farmers grow to how it is transported to the grocery store, that can mitigate some of the effects of climate change and make our food system more resilient in the face of climate change.

As Albert Einstein said, “Problems cannot be solved by the same level of thinking that created them.”

Course Execution

Our freshman seminar is designed to use a mix of teaching and learning styles that emphasize student participation through in-class discussions, peer collaboration, student presentations and community building.

Classes will be held virtually via Zoom every Tuesday at 4-4:50pm. Please use the following link to join our weekly class:

<https://umass-amherst.zoom.us/j/99575363490>

My hope is to get the most out of our 50 minutes together so if you could log in 5 minutes early then we can be ready to go right at 4. The Zoom meeting link will be the same for every class meeting and will not only be here on the syllabus but posted on the course Moodle page as well.

Required Text

There is no required text for this seminar, though several readings and other assignments will be assigned throughout the semester. I will provide links to all weekly readings and other assignments on the Moodle course page.

Course Objectives

Upon completion of the course you, the student, will have a deepened understanding of:

- How our current food system works and where key intervention points in the system are to make sustainable change for the future.
- Systems thinking and approach to problem solving.
- How to make connections between social, ecological and economic problems and be able to articulate those connections and map them out.
- Compare the sustainability of different agricultural practices and explore future farming options.
- How to apply models of de-centralized food systems and food-shed assessments.
- Presenting food systems research findings to the class.

Course Evaluation

You will be evaluated for the course based upon your ability to achieve the course objectives above and by the following evaluation criteria:

Attendance and Participation – 50%

As a discussion based seminar your attendance and participation in class is highly suggested to succeed in our class and is what makes our class most interesting. As such, attendance and participation will be a significant portion of your overall grade for the course making up 50% of your grade. Missing more than one unexcused class session will result in a lower overall grade for the course. Each unexcused absence will lower your overall grade by 5%.

I also understand life has a way of throwing us curve balls and that we are living through a global pandemic, I just ask that you let me know in advance, when possible, that you will be missing class and ask that you watch our recorded class so that you can catch up on anything you missed.

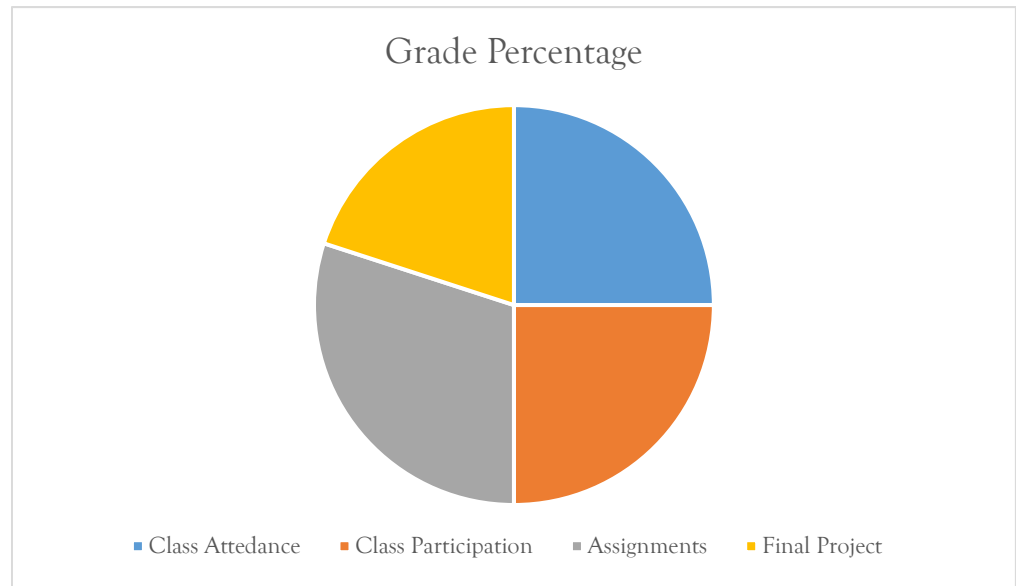
The class participation portion of your grade will be analyzed by the questions and comments you contribute during class either verbally or through the chat/annotate feature in Zoom and by commenting on your classmate's comments and/or blog posts and should demonstrate thoughtful consideration of the course material.

Readings and Assignments – 50%

I will assign several readings, videos and activities over the course of the semester to complement and reinforce the learning objectives for the class. All readings and other short writing assignments and systems thinking activities will be posted on Moodle as well as on the Course Schedule below. These short reading and writing assignments will make up 30% of your overall grade for the course.

The remaining 20% of your grade will consist of a Final Mind Map Project. You will be asked to pick a part of the food system and map it out, using the systems thinking

tools we learn throughout the semester, to find key intervention points in the system that when tweaked can make positive sustainable change for a more resilient future food system. You will do a brief presentation of your map to the class, explaining and highlighting key points. We will discuss the details of these assignments throughout the semester.



Homework Policy

Any assignments turned in late, without previously getting an extension from me, will be subjected to a 2% penalty for each day it is late.

Academic Honesty Policy

Here at UMass Amherst we want our learning environment to be honest and fair and have created an [Academic Honesty Policy](#) that includes cheating and plagiarism as forms of dishonesty.

If you are unsure of what plagiarism is, it is any attempt to take credit for the work done by another person. We all, as scholars, rely on the work of other people to shape our own knowledge and interpretations, however any work other than your own must be cited throughout your work.

If you are still unsure about what may be considered plagiarism, please talk with me and/or our Writing Center: [Writing, Plagiarism, & Academic Honesty at UMass Amherst Writing Center](#). [Purdue Owls Online Writing Lab](#) also provides a comprehensive guide related to plagiarism.

And here is a link to the [Academic Dishonesty Guide for Students](#).

Special Needs

Your success in our class is important to me and I know everyone learns differently so if you are having any difficulty with any of the course material or delivery of the course material please reach out and I will work with you to help you succeed in this course.

UMass Amherst is also committed to providing an equal educational opportunity for all of their students. If you have a documented physical, psychological, or learning disability and are not registered Disability Services you will need to register with Disability Services (161 Whitmore Administration building; phone 413-545- 0892). Information on services and materials for registering are also available on their website www.umass.edu/disability.

You may be eligible for academic accommodations to help you succeed in this class and others. If you have a disability or any special needs, please reach out to me to let me know as soon as possible so we can work together throughout the course to help you succeed.

Resources

There are also a range of resources on campus, including:

- [Writing Center](http://www.umass.edu/writingcenter) - <http://www.umass.edu/writingcenter>
- [Learning Resource Center](http://www.umass.edu/lrc) - <http://www.umass.edu/lrc>
- [Student Success](https://www.umass.edu/studentsuccess/) - <https://www.umass.edu/studentsuccess/>
- [Center for Counseling and Psychological Health \(CCPH\)](http://www.umass.edu/counseling) - <http://www.umass.edu/counseling>
- [English as a Second Language \(ESL\) Program](http://www.umass.edu/esl) - <http://www.umass.edu/esl>

Course Schedule

Week	Topic	Assignment for next class
Week 1 - August 25th	Meet and Greet: Review syllabus & create class norms	Introduce yourselves on the forum & comment on 2 classmates, take survey & read Food Systems Primer
Week 2 - September 1st	Our broken food system: Intro & History - Timeline Activity	Watch: <i>Fresh</i> & write a forum post and comment on 2 of your classmates posts
Week 3 - September 8th	<i>Fresh</i> debrief/discussion & Mind Map Activity	Read: <i>People and Permaculture</i> section on systems thinking & watch the <i>Systems Thinking for a Better World Lecture</i> video
Week 4 - September 15 th	Why Systems Thinking?	Read: <i>How Climate Change Will Alter Our Food</i> & watch the TED Talk <i>How Climate Change Could Make Our Food Less Nutritious</i>
Week 5 - September 22 nd	Food and Climate Change: How Climate Change Affects our Food System	Watch: <i>Animal Agriculture and Climate Change</i> , <i>The Great Challenge: Farming, Food And Climate Change</i> & <i>The Big Waste: Why Do we Throw Away so Much Food?</i>
Week 6 - September 29th	Food and Climate Change: How our Food System Affects Climate Change	Read: <i>Capitalism, food, and social movements: The political economy of food system transformation</i> , Iceberg model & Places to Intervene handouts
Week 7 - October 6th	Systems thinking: Iceberg model	Sign up for mid semester meeting, complete survey, & work on reverse iceberg model assignment
Week 8 - October 13th	Asynchronously watch: <i>Growing Change: A Journey Inside Venezuela's Food Revolution</i> & mid semester meetings	Write a forum post or create a mind map and post to forum & comment on 2 of your classmate's posts Watch: <i>Food Chains</i> for Week 9

Week	Topic	Assignment for next class
Week 9 - October 20th	Food Justice	Watch: <i>Kiss the Ground</i> & read <i>What is Regenerative Agriculture?</i>
Week 10 - October 27 th	Food and Climate Solutions	Watch: Inhibit: A Permaculture Perspective and write a forum post & comment on 2 of your classmates posts
Week 11 - November 3rd	Resilient Food Systems Case Study: Permaculture	Work on your final presentations
Week 12 - November 10th	Final Presentations	
Week 13 - November 17th	Last day of class - Final Presentations & Class Closeout	Finalized projects due November 26th by 11:59pm

***Course Schedule may change over the semester**