Introduction to Sustainable Agriculture Syllabus

ENR 3100 Autumn 2023

Course Information

- **Course times and location:** Lecture Monday and Wednesday, 9:10AM - 10:05AM
  Lab Wednesday 2:30PM – 5:30PM
  Plus weekly Carmen interaction

- **Credit hours:** 3
- **Mode of delivery:** In Person

Lead Instructor

- **Name:** Jason Shaw Parker
- **Email:** parker.294@osu.edu
- **Phone Number:** 419-755-4002
- **Office location:** 469 Kottman
- **Office hours:** Wednesday by appointment
- **Preferred means of communication:**
  - My preferred method of communication for questions is **email.**
  - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to be sure you receive these messages.

Course Prerequisites

None.

Course Description

Catalog description

This course is an introduction to the issues, concepts and practices associated with sustainable agriculture. Agriculture is a complex social-ecological system which integrates a wide range of economic, environmental and social aspects. This course is structured to provide the student with opportunities to connect the principles of sustainable agriculture covered in classroom with experiential learning activities that take place in the local food system (e.g. via field trips to farms and food related businesses). Students will learn to assess the social, economic, and ecological processes that underpin agriculture and the management

practices which influence the function of crop and livestock production systems. Sustainability also requires that agricultural enterprises have a firm economic basis, regardless of whether they are structured as for-profit or non-profit organizations. Since agriculture involves more than just production systems or business enterprises, students will also explore the important role that agriculture plays in strengthening local communities and society at large.

Learning Outcomes

By the end of this course, students should successfully be able to:
1. Understand what is meant by "sustainable" agriculture and apply this description to crop and livestock production systems.
2. Identify appropriate cultural practices to enhance biodiversity on the farm, increase soil organic matter, and limit negative environmental impacts from crop and livestock production.
3. Incorporate and quantify ecosystem services at work in production systems.
4. Describe resources for and constraints on contemporary farm production systems (ecological, social, economic)
5. Outline the social, economic and political forces that have shaped and can shape sustainable agriculture and food systems
6. Describe the ethical constraints on food system development and sociocultural well-being
7. Conceptually diagram and describe the elements or components, structure and function of complex systems
8. Recognize and incorporate into design and planning systems key systems concepts including trade-offs, feedback loops, direct and indirect effects, synergies and emergent properties
9. Evaluate agricultural systems from different times or places
10. Analyze how livelihoods are reliant on and affected by the landscape context
11. Evaluate the global connections in markets and food production systems
12. Manage spatial and temporal variability of elements of production
13. Evaluate agricultural systems at the landscape scale and design farm- and field-scale interventions with an understanding of broader regional impacts
14. Demonstrate ethical behaviors in food system business management
15. Implement food safety best management practices to promote human health in food production
16. Effectively engage with diverse perspectives in agriculture and communicate both sides of controversial issues
17. Communicate well across cultural and language differences

General Education Expected Learning Outcomes

As part of the GE Cultures and Ideas category of the General Education curriculum, this course is designed to prepare students to be able to do the following through the listed activities:

- Incorporate and quantify ecosystem services at work in production systems.

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- List the categories of ecosystem services
- Delineate the ecosystem functions underpinning ecosystem services
- Describe resources for and constraints on contemporary farm production systems (ecological, social, economic)
  - Describe environmental pressures on agriculture
- Outline the social, economic and political forces that have shaped and can shape sustainable agriculture and food systems
  - Describe the interaction among social, economic, and political forces shaping agriculture in combination with biological factors
  - Evaluate and compare:
    - The policy tools available to develop sustainable agriculture
    - The economic tools available to shape sustainable agriculture
    - Social and cultural strategies to guide the development of sustainable agriculture
  - Design a comprehensive strategy using chosen policy, economic and sociocultural tools to advance sustainable agriculture
- Describe the ethical constraints on food system development and sociocultural well-being
  - Evaluate competing stakeholder interests and the ethical and social justice implications of the interplay and outcome of those interests in light of social, political and economic factors
- Conceptually diagram and describe the elements or components, structure and function of complex systems
  - Demonstrate proficiency with diagramming concept maps that show the relationships between elements of any system
  - Explain the relationships between system elements using linking phrases in concept maps
  - Identify and explain tradeoffs feedback loops, and structure-function relationships in systems in concept maps or models
- Recognize and incorporate into design and planning systems key systems concepts including trade-offs, feedback loops, direct and indirect effects, synergies and emergent properties
  - Explain the direct and indirect effects of a given agricultural or food system proposal under different social, economic or environmental scenarios
- Evaluate agricultural systems from different times or places
  - Analyze, critique and evaluate contemporary agricultural systems and compare and contrast them with historic or non-western models
- Analyze how livelihoods are reliant on and affected by the landscape context
  - Analyze the processes by which global landscapes emerge from the intersection of natural and cultural forces
  - Project the way in which future scenarios (environmental, cultural, political, scientific) will impact and shape future landscapes
- Evaluate the global connections in markets and food production systems

- o Describe global economic, market and regulatory linkages relevant to food production systems
- Manage spatial and temporal variability of elements of production
    - o Identify elements (matter, organisms, genes, actors, infrastructure) of agricultural production systems and the surrounding landscape
    - o Describe spatial and temporal variation in the elements of agricultural production systems
- Evaluate agricultural systems at the landscape scale and design farm- and field-scale interventions with an understanding of broader regional impacts
    - o Recognize and describe the landscape context for fields and farms
    - o Describe how farms or fields and the surrounding landscape interact in terms of flows of organisms, materials and social interactions
- Describe resources for and constraints on contemporary farm production systems (ecological, social, economic)
    - o Describe business and economic factors affecting agriculture
    - o Analyze how business and economic factors affecting farming systems and their maintenance over time
- Demonstrate ethical behaviors in food system business management
    - o Identify best ethical practices and principles for food system business management
    - o Discuss professionalism and ethics in agriculture and food systems
    - o Evaluate case studies of agriculture and food systems and understand risk factors associated with poor ethical behavior in food system business management
    - o Critique agriculture and food systems business models in terms of sustainability, considering factors like nutrition, food access, food waste, ecological integrity and sustainability, economic viability and other social equity and justice factors
    - o Create a personal and professional code of behavior to govern food system business management work and study
    - o Evaluate the ethical components of public policy debates about agriculture and food systems
- Implement food safety best management practices to promote human health in food production
    - o Demonstrate awareness of health risks in the food system
- Effectively engage with diverse perspectives in agriculture and communicate both sides of controversial issues
    - o Collect and organize pertinent information representing diverse perspectives
    - o Articulate diverse viewpoints of various food system stakeholders
    - o Propose a strategy to communicate the complex nature of a given food system situation
    - o Develop a reasonable strategy to provide resolution to a conflict among stakeholders
- Communicate well across cultural and language differences

- o Listen well and as needed, restate the topic under discussion to establish clarity
- o Identify personal culture rules and biases
- o Identify cultural differences and acknowledge their potential role in interactions and decision making
- o Suspend judgement a show sensitivity regarding cultural differences
- Demonstrate inclusivity in discussions and decision making

How This Course Works

Mode of delivery:
We will meet in person for lectures twice a week on Mondays and Wednesdays. In addition, you will each attend a lab section in person once a week on Wednesday.

Pace of activities: This course is divided into **weekly modules** that are available at least one week ahead of time. Students are expected to keep pace with weekly deadlines and should schedule their efforts to keep on time.

Credit hours and work expectations: This is a 3 credit-hour course. According to Ohio State bylaws on instruction (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of C average.

Attendance and participation requirements: Research shows regular participation is one of the highest predictors of success. With that in mind, I have the following expectations for everyone's participation:

- **Participating in in person and online activities for attendance**:
  You are expected to attend each lecture and lab session. If you have a situation that might cause you to miss class or lab, discuss it with me *as soon as possible.*

- **Office hours:** Wednesday by appointment. Office hours are optional. Attendance could be arranged in person or via Zoom; class meetings is highly encouraged.

- **Participating in discussion forums**:
  As part of your participation, each week you can expect to post or respond to a prompt at least once per week as part of our substantive class discussion on the week's topics.

Course Materials, Fees and Technologies

Required Materials and/or Technologies

Chase, Lisa and Vern Grubinger. 2014. Food, Farms and Community: Exploring Food Systems. University of New Hampshire Press. Available for FREE online via Project MUSE after OSU Libraries login: https://muse-jhu-edu.proxy.lib.ohio-state.edu/book/36007/

Magdoff, F., and Van Es, H. Building Soils for Better Crops: Sustainable Soil Management. 3rd ed. SARE Handbook Series Book no. 10. 2009. Available for FREE online at: http://www.sare.org/Learning-Center/Books/Building-Soils-for-Better-Crops-3rd-Edition

Thistlethwaite, Rebecca. Farms with a Future: Creating and Growing a Sustainable Farm Business. Chelsea Green Publishing, 2013.

Bolen, P.J., House, G. Sustainable Agroecosystem Management CRC Press, 2009

*Other readings will be provided as PDFs and distributed on the Carmen course website.

Required Equipment

- **Computer:** current Mac (MacOS) or PC (Windows 10) with high-speed internet connection.
- **Webcam:** built-in or external webcam, fully installed and tested
- **Microphone:** built-in laptop or tablet mic or external microphone
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

If you do not have access to the technology you need to succeed in this class, review options for technology and internet access (go.osu.edu/student-tech-access).

Required Software

Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Visit the installing Office 365 (go.osu.edu/office365help) help article for full instructions.

CarmenCanvas Access

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:
- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device (go.osu.edu/add-device) help article for step-by-step instructions.

- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes, good for 365 days, that can each be used once.

- Install the Duo Mobile application (go.osu.edu/install-duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

Technology Skills Needed for This Course

- Basic computer and web-browsing skills
- Navigating CarmenCanvas (go.osu.edu/canvasstudent)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration and recording, editing and uploading video (go.osu.edu/video-assignment-guide)

Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat**: go.osu.edu/it

- **Phone:** 614-688-4357 (HELP)

- **Email:** servicedesk@osu.edu

Grading and Faculty Response

How Your Grade is Calculated

Assignment Category	Points
Participation	5%
Written Reflections	20%
Lab Assignments	10%
Term Paper	20%
Midterm Exams	30%
Final Exam Project	15%
Total	100%

See Course Schedule for due dates.

Descriptions of Major Course Assignments

Participation (5%) A grade for participation will be assigned by the instructor based on the students' level of engagement with the class during the classroom and lab activities.

Written Reflections (20%): Throughout the semester students will be given 7 written reflection assignments which are intended to help students reflect on and evaluate the sustainability of several of the farms and businesses that they visit during their lab field trips. Each written reflection will be 1 page in length and must follow the online instructions. The reflection must be turned in one week after the field trip using the course website. Lab assignments will be weighted as 20% of the total course grade.
**See note at the end of the course schedule for more information on field trips.

Lab Assignments (10%): Lab assignments consist of field trips, in person or virtual, completed during the week of the assignment according to the student's schedule. During several of the lab activities students will be given an assignment to completed during the lab period. Each lab assignment must be turned in one week after the field trip using the course website. Lab assignments will be weighted as 10% of the total course grade.

Term Paper (20%): Students will write a term paper examining some aspect of sustainable agriculture. A detailed rubric will be provided to each student that outlines the scope and structure of the term paper. The term paper is worth 20% of the final course grade.

Midterm Exams (30%): Two evenly weighted midterm exams will be given which cover the lecture material. Exam dates posted in the syllabus are tentative and subject to change. Students will be notified of new exam dates no less than 1 week in advance of the new exam dates. All exams will be taken online and must be completed in the 55-minute time period. These exams will account for 30% of the total course grade.

Final Exam Project (15%): In place of a traditional final exam, each student will be assigned a project (based on their term paper) which will be due on the day of the scheduled final exam. This individual project will have a written component and oral component that is presented during the final exam period. A detailed rubric for the project will be provided. This final exam project will be weighted as 15% of the total course grade.

Academic integrity and collaboration: Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should follow APA style to cite the ideas and words of your research sources. Formal assignments in include Lab Reflections and Term Papers. You are encouraged to ask a trusted person to proofread your assignments before you turn them in but no one else should revise or rewrite your work. TurnItIn will be used to evaluate the original content of your work and provide opportunities to correct potential plagiarism.

Field Trips

These activities will be at locations around Franklin County. We will organize student transportation with university carpool resources.

Late Assignments

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments. Due to the collaborative nature of class discussions, posts submitted after the final weekly deadline for assignments will have grade reductions of 10% per calendar day late, may have reduced feedback, and take longer to post. Missed exams may be made up in the event of illness or immediate family emergency. Documentation will be required (e.g. doctor's note or other appropriate documentation) and an alternate exam will be provided.

Instructor Feedback and Response Time

I am providing the following list to give you an idea of my intended availability throughout the course. Remember that you can call 614-688-4357 (HELP) at any time if you have a technical problem.

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- **Preferred contact method:** If you have a question, please contact me first through my Ohio State email address – parker.294@osu.edu. I will reply to emails within **24 hours on days when class is in session at the university**.

- **Class announcements:** I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to ensure you receive these messages.

- **Discussion board:** I will check and reply to messages in the discussion boards once mid-week and once at the end of the week.

- **Grading and feedback:** For assignments submitted before the due date, I will try to provide feedback and grades within **ten days when class is in session at the university**. Assignments submitted after the due date may have reduced feedback and grades may take longer to be posted.

Grading Scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Other Course Policies

Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style**: While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.

- **Tone and civility**: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online. I will provide specific guidance for discussions on controversial or personal topics.

- **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.

- **Backing up your work**: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

- **Synchronous sessions**: During our Zoom sessions I ask you to use your real name and a clear photo of your face in your Carmen profile. During our full-group lecture time, you may turn your camera off if you choose. When in breakout rooms or other small-group discussions, having cameras and mics on as often as possible will help you get the most out of activities. You are always welcome to use the free, Ohio State themed virtual backgrounds (www.osu.edu/downloads/zoom-backgrounds.html). Remember that Zoom and the Zoom chat are our classroom space where respectful interactions are expected.]

Weather or other short-term closing

Should in-person classes be canceled, we will meet virtually via CarmenZoom during our regularly scheduled time. I will share any updates via CarmenCanvas and email.

Religious Accommodations

It is Ohio State's policy to reasonably accommodate the sincerely held religious beliefs and practices of all students. The policy permits a student to be absent for up to three days each academic semester for reasons of faith or religious or spiritual belief.

Students planning to use religious beliefs or practices accommodations for course requirements must inform the instructor in writing no later than 14 days after the course begins. The instructor is then responsible for scheduling an alternative time and date for the course requirement, which may be before or after the original time and date of the course requirement. These alternative accommodations will remain confidential. It is the student's responsibility to ensure that all course assignments are completed.

Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Copyright for Instructional Materials

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential

and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

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The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member."

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at https://go.osu.edu/principlesofcommunity. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (https://equityandinclusion.cfaes.ohio-state.edu/). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at https://studentlife.osu.edu/bias/report-a-bias-incident.aspx.

Your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th floor of the Younkin Success Center and 10th floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 **by dialing 988 to reach the Suicide and Crisis Lifeline**.

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor on the Columbus campus. To contact David, please call 614-292-5766. Students should mention their affiliation with CFAES if interested in speaking directly with David.

Accessibility Accommodations for Students with Disabilities

Requesting Accommodations

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are isolating while waiting for a COVID-19 test result, please let me know immediately. Those testing positive for COVID-19 should refer to the Safe and Healthy Buckeyes site for resources. Beyond five days of the required COVID-19 isolation period, I may rely on Student Life Disability Services to establish further reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Accessibility of Course Technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible.

- CarmenCanvas accessibility (go.osu.edu/canvas-accessibility)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)

Course Schedule (tentative)

Refer to the CarmenCanvas course for up-to-date due dates.

Week	Lecture Topics & Lab Activities
Week 1 Aug 22 to 24	**Lecture:** *Course Overview: What is Sustainable Agriculture?*
Week 2 Aug 28 to Sep 1	**Lecture:** *Pillars of Sustainable Agriculture* **Lecture:** *Systems Thinking in Agriculture* **Lab:** *Final Project topic discussion*
Week 3 Sep 4 to 8	**No Class Monday September 4, Labor Day** **Lecture:** *Farming and the Environment; Ecosystem Services: A Systems Thinking Example*
Week 4 Sep 11 to 15	**Lecture:** *Social Sustainability in Agriculture* **Lecture:** *Managing for Soil Health & Soil Quality*
Week 5 Sep 18 to 22	**Lecture:** *Agrobiodiversity* **Lecture:** *Seed Banks & Agricultural Memory Banks*
Week 6 Sep 25 to 29	**Lecture:** *Organic Crop Production, Rotation and & Cover Crops* **Lecture:** *Integrated Pest Management*
Week 7 Oct 2 to 6	**Lecture:** ***Midterm Exam 1*** **Lecture:** *The Business of Food and Farming*
Week 8 Oct 9 to 13	**Lecture:** *Sustainable Livestock Production* **Lecture:** *Sustainable Forage Production & Grazing*
Week 9 Oct 16 to 20	**Lecture:** *Understanding Local Food Systems* **Lecture:** *Food Systems in Developing Countries*
Week 10 Oct 23 to 27	**Lecture:** *Urban Agriculture* **Lecture:** *Examining Agri-family Systems*
Week 11 Oct 30 to Nov 3	**Lecture:** *Farm Labor Issues in the Age of Globalization* **Lecture:** *Local Marketing Strategies*

Week 12 Nov 6 to Nov 10	**Lecture:** *Niche Markets* **Lecture:** *Global Food and Commodity Systems*
Week 13 Nov 13 to 17	**Lecture:** *Sustainability Certification & Labeling* **Lecture:** *Climate Change & Agriculture: Impacts*
Week 14 Nov 20 to 24	**Lecture:** *Social & Policy Implications of Climate Change* **No Class Wednesday, November 22** **Thanksgiving Break**
Week 15 Nov 27 to Dec 2	**Lecture** *Food Policy and Regulation* **Lecture:** *TBA* **Lab:** *Final Project Presentations*
Week 16 Dec 4 to Dec 6	**Lecture:** Wrap-up No Class Wednesday, December 6
FINALS WEEK	**Final Exam**