

O'Neill School of Public and Environmental Affairs *E417/E530: Fundamentals of Sustainable Agriculture* 

**Instructor:** James Farmer, Ph.D.

Associate Professor

O'Neill School of Public and Environmental Affairs

jafarmer@indiana.edu / O- 812-856-0969 / C-812-558-0674 Office: 505 N. Park Ave. (Park 4); office hours by appointment

Class Schedule: Wednesday 3:00-4:15 (513 N. Park Ave.) - and Friday 8:00-12:00 (or as announced)

Course Description: This course will present the fundamentals of specialty crop and animal sustainable agriculture based on an agroecological framework. We will focus our attention on local and regional agriculture. Students will learn about and apply ecological, social, and economic concepts in evaluating for farm sustainability. The course includes both "in-class" and field lab experiences. Participation, observation, and thoughtful, open discussion will be essential to successful learning. Lectures will include overviews of the basic principles and practices guiding ecological farming systems.

#### **Required Texts & Readings:**

- Freedom Farmers (2018) by Monica White
- Other readings as assigned (mostly distributed via Canvas)

#### **Learning Outcomes:**

- 1. Learn the foundational principles and practices of managing biodiverse, ecologically based farming systems.
- 2. Develop a clear understanding of how smalls scale, ecological farming communities are developing and what they look like, in Indiana and elsewhere.
- 3. Develop critical and creative thinking skills for evaluating the social, economic, political, and environmental context for current and future sustainable agriculture production.
- 4. Demonstrate ability and knowledge to intelligently and clearly discuss the basic principles and practices governing sustainable food and farming systems.

**Teaching and Learning Methods**: Field observation and farm visits, lectures, readings, student presentations, discussions, exams, papers, projects, oh my!

#### **Expectations:**

- 1. Each person is responsible for their own learning but as a class we can greatly enhance each other's understanding and engagement.
- 2. In order to function well as a learning community, we must all do our part and come to class prepared to engage one another and the material. This means always reading and reflecting on the assigned materials and thoughtfully preparing questions and information to share with the group.
- 3. The farms and farmers we visit as a class deserve the utmost respect. We will be visitors to their places of business and homes, taking up their valuable time. Each student is expected to conduct themselves politely and positively, with the utmost decorum. You are also supposed to dress appropriately (maybe want a job from this person someday), wearing closed-toed shoes and keeping them on all of the time.

#### O'Neill School expectations of civility and professional conduct

The O'Neill School takes matters of honesty and integrity seriously because O'Neill is the training ground for future leaders in government, civic organizations, health organizations, and other institutions charged with providing resources for the public, and for members of society who are vulnerable and who are lacking in power and status. Precisely because O'Neill graduates tend to rise to positions of power and responsibility, it is critical that the lessons of honesty and integrity are learned early.

O'Neill requires that all members of its community – students, faculty, and staff – treat others with an attitude of mutual respect both in the classroom and during all academic and nonacademic activities outside the classroom. A student is expected to show respect through behavior that promotes conditions in which all students can learn without interruption or distraction. These behaviors foster an appropriate atmosphere inside and outside the classroom:

- 1. Students are expected to attend class regularly and to be prepared for class.
- 2. Students must be punctual in their arrival to class and be present and attentive for the duration of the class. Eating, sleeping, reading the newspaper, doing work for another class, wandering in and out of the classroom, and packing up or leaving class early are not civil or professional behaviors.
- 3. Students must abide by the course policy regarding use of electronic devices in the classroom.
- 4. Students must responsibly participate in class activities and during team meetings.
- 5. Students must address faculty members, other students, and others appropriately and with respect, whether in person, in writing, or in electronic communications.
- 6. Students must show tolerance and respect for diverse nationalities, religions, races, sexual orientations, and physical abilities.
- 7. Students must not destroy or deface classroom property nor leave litter in the classroom.

#### **Course Policies:**

- 1. As your instructor, one of my responsibilities is to create a positive learning environment for all students. **Bias incidents** (events or comments that target an individual or group based on age, color, religion, disability, race, ethnicity, national origin, sex, gender, gender identity, sexual orientation, marital status or veteran status) are not appropriate in our classroom or on campus. What should you do if you witness or experience a bias incident? See it? Hear it? Report it by submitting a report online (biasincident.indiana.edu) or calling the Dean of Students Office (812-855-8187).
- 2. <u>Dean on Call.</u> The Dean of Students office provides support for students dealing with serious or emergency situations after 5 p.m. in which an immediate response is needed and which cannot wait until the next business day. Faculty or staff who are concerned about a student's welfare should feel free to call the Dean on Call at (812) 856-7774. This number is not to be given to students or families but is for internal campus use only. If someone is in immediate danger or experiencing an emergency, call 911.
- 3. **Emergency Food Relief.** Food insecurity is a real challenge for many in our community, including students. Recent research estimates ~41% of students at 4-year colleges and universities are food insecure. If you find you are in need of food and do not have the resources to acquire it, please consider utilizing the emergency food relief system on campus and in the community. The following units/agencies are here to assist with food relief:
  - Crimson Cupboard: <a href="https://studentaffairs.indiana.edu/student-support/crimson-cupboard/index.html">https://studentaffairs.indiana.edu/student-support/crimson-cupboard/index.html</a>
  - Mother Hubbard's Cupboard Food Pantry: <a href="https://www.mhcfoodpantry.org/">https://www.mhcfoodpantry.org/</a>
  - Other pantries: https://www.foodpantries.org/ci/in-bloomington

4. <u>Counseling and Psychological Services:</u> For information about services offered to students by CAPS: <a href="http://healthcenter.indiana.edu/counseling/index.shtml">http://healthcenter.indiana.edu/counseling/index.shtml</a>.

#### **TimelyCare**

Indiana students have free, 24/7 access to virtual mental health care services with TimelyCare. Students do not need insurance to access TimelyCare services. https://www.iu.edu/mental-health/find-resources/timely-care.html#0

- 5. <u>Disability Services for Students:</u> Securing accommodations for a student with disabilities is a responsibility shared by the student, the instructor and the DSS Office. For information about support services or accommodations available to students with disabilities, and for the procedures to be followed by students and instructors: <a href="https://studentaffairs.indiana.edu/student-support/disability-services/index.html">https://studentaffairs.indiana.edu/student-support/disability-services/index.html</a>.
- 6. **Sexual Harassment:** As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help.

If you are seeking help and would like to talk to someone confidentially, you can make an appointment with:

- i. The Sexual Assault Crisis Service (SACS) at 812-855-8900
- ii. Counseling and Psychological Services (CAPS) at 812-855-5711
- iii. Confidential Victim Advocates (CVA) at 812-856-2469
- iv. IU Health Center at 812-855-4011

For more information about available resources: <a href="http://stopsexualviolence.iu.edu/help/index.html">http://stopsexualviolence.iu.edu/help/index.html</a>.

It is also important to know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our campus' Deputy Title IX Coordinator or IU's Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed. Protecting a student's privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist. I encourage you to visit <a href="http://stopsexualviolence.iu.edu/help/index.html">http://stopsexualviolence.iu.edu/help/index.html</a> to learn more.

- 7. Reporting Conduct and Student Wellness Concerns: All members of the IU community including faculty and staff may report student conduct and wellness concerns to the Division of Student Affairs using an online form located at <a href="https://studentaffairs.indiana.edu/dean-students/student-concern/index.shtml">https://studentaffairs.indiana.edu/dean-students/student-concern/index.shtml</a> or <a href="https://studentaffairs.indiana.edu/office-student-ethics/file-a-report.shtml">https://studentaffairs.indiana.edu/office-student-ethics/file-a-report.shtml</a>.
- 8. Students needing additional financial or other assistance: The Student Advocates Office can help students work through personal and academic problems as well as financial difficulties and concerns in order to help students progress towards earning a degree. The Office also provides support and assistance to students in working through grade appeals and withdrawals from all classes. In addition to advising student on appeal and financial issues such as financial aid or

tuition, they also have emergency funds for IU students experiencing emergency financial crisis <a href="https://studentaffairs.indiana.edu/student-advocates/">https://studentaffairs.indiana.edu/student-advocates/</a>.

- 9. <u>Late Assignments:</u> Hand in assignments on time!
- 10. <u>Missed Exams:</u> Missed exams cannot be made up unless for reasons spelled out the attendance policy or circumstances cleared with me ahead of time.
- 11. <u>Communication:</u> Email is the best way to get hold of me: jafarmer@indiana.edu. Please note it may take me 24 hours to respond to your message. Many times I don't check email on weekends. If you need to get in touch with me immediately because of an **emergency**, please call 812-558-0674.
- 12. Religious Observation: In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course instructor by the end of the second week of this semester. A separate form must be submitted for each day. The instructor will fill in the bottom section of the form and then return the original to the student. Information about the policy on religious observation can be found at the following website: <a href="https://policies.iu.edu/policies/aca-59-accommodation-religious-observances/index.html">https://policies.iu.edu/policies/aca-59-accommodation-religious-observances/index.html</a>.

# Commitment to Diversity: Find your home and community at IU

**Asian Culture Center** 

Address: 807 East Tenth Street, Bloomington, IN 47408

Phone: 812-856-5361 Email: acc@indiana.edu

Website: <a href="https://asianresource.indiana.edu/index.html">https://asianresource.indiana.edu/index.html</a>

# First Nations Educational & Cultural Center

Address: 712 E 8th St., Bloomington, IN 47408

Phone: 812-855-4814 Email: fnecc@indiana.edu

Website: https://firstnations.indiana.edu/contact/index.html

#### **Jewish Culture Center**

Address: 730 E 3rd St., Bloomington, Indiana 47401

Phone: 812-336-3824

Website: <a href="https://iuhillel.org/iu-jewish-culture-center">https://iuhillel.org/iu-jewish-culture-center</a>

# **LGBTQ+ Culture Center**

Address: 705 E 7th St., Bloomington, Indiana 47408

Phone: 812-855-4252

Email: glbtserv@indiana.edu

Website: <a href="https://lgbtq.indiana.edu/contact/index.html">https://lgbtq.indiana.edu/contact/index.html</a>

## La Casa Latino Culture Center

Address: 715 E 7th St., Bloomington IN, 47408

Phone: 812-855-0174

Email: lacasa@indiana.edu

Website: https://lacasa.indiana.edu/

### **Neal-Marshall Black Culture Center**

Address: 275 N Jordan Ave Bloomington, Indiana 47405

Phone: 812-855-9271

Email: nmgrad@indiana.edu

Website: https://blackculture.indiana.edu/index.html

14. Academic Honesty and Plagiarism: Indiana University policies on academic misconduct as presented in the most current Code of Student Ethics will be followed. Please refer to the full policy at <a href="http://www.iu.edu/~code/code/responsibilities/academic/index.shtml">http://www.iu.edu/~code/code/responsibilities/academic/index.shtml</a>. Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment. Cheating includes but is not limited to giving or receiving answers on assignments and test or using any materials or aids pertinent to assignments and tests without permission of the instructor. Any forms of cheating will be penalized under the discretion of the instructor.

It is your responsibility to understand what constitutes plagiarism. Plagiarism is defined as the intentional act of representing the words of another, as one's own in any academic exercise. Plagiarism may occur on any paper, report, or other work submitted to fulfill course requirements. This includes submitting work done by another, whether a commercial or non-commercial enterprise, including web-sites, as one's own work. Works that include copied sentences or paragraphs without proper citations, as well as entire articles, sections of books, periodicals, web articles, work from other students, are all considered forms of plagiarism. You can find more information on what constitutes plagiarism from an APA manual or at the above website. Plagiarism is grounds for failing assignments and the course. All students at Indiana University are responsible for knowing the rules governing academic conduct. All written assignments will be submitted to Turnitin.com and saved within the repository.

According to a new policy on academic misconduct, all staff are required to report the incident within 14-days to the Dean of Students, regardless of whether you meant to plagiarize or not. It is for your benefit that you know what it is and how to prevent it. The following link will test your knowledge on plagiarism: <a href="https://www.indiana.edu/~tedfrick/plagiarism/index2.html">https://www.indiana.edu/~tedfrick/plagiarism/index2.html</a>

<u>Use of AI (such as ChatGPT) in this class.</u> Using AI (such as ChatGPT) to assist in completing assignments in this class is prohibited. If you do use AI, you will be committing plagiarism\* and will be subject to penalties in this class and sanctions by Indiana University. AI is only allowed when assigned to be used by the instructor, in this case, full and careful documentation and citation of the AI generated content is mandatory.

Note Selling: Several commercial services have approached students regarding selling class notes/study guides to their classmates. Selling the instructor's notes/study guides in this course is not permitted. Violations of this policy will be reported to the Dean of Students as academic misconduct (violation of course rules). Sanctions for academic misconduct may include a failing grade on the assignment for which the notes/study guides are being sold, a reduction in your final course grade, or a failing grade in the course, among other possibilities. Additionally, you should know that selling a faculty member's notes/study guides individually or on behalf of one of these services using IU email, or via Canvas may also constitute a violation of IU information technology and IU intellectual property policies; additional consequences may result.

<u>Materials</u>: The faculty member teaching this course holds the exclusive right to distribute, modify, post, and reproduce course materials, including all written materials, study guides, lectures, assignments, exercises, and exams. While you are permitted to take notes on the online materials and lectures posted for this course for your personal use, you are not permitted to repost in another forum, distribute, or reproduce content from this course without the express written permission of the faculty member. Any violation of this course rule will be reported to the appropriate university offices and officials, including to the Dean of Students as academic misconduct.

- 15. <u>Canvas:</u> All readings and class announcements will be posted on the Canvas site. It is your responsibility to check Canvas on a regular basis to stay up to date with this course.
- 16. <u>Inclement/Bad Weather Policy:</u> Class will only be cancelled if the university officially closes campus. Normally the university does not cancel classes due to bad weather. On those rare occasions when conditions indicate that a delay or a cancellation is necessary, an official announcement will be broadcast on local television stations. It is your responsibility to find out the status of campus closings before class and it is ultimately your responsibility to make a decision about your personal safety for traveling to and from campus.
- 17. **Drop/Withdrawal for Term:** The auto-W deadline is NO LONGER THE LAST DAY OF CLASS (as it was during and post-Covid). After the auto-W deadline, withdrawal will be significantly limited and you will need permission to withdraw and must meet requirements established by O'Neill. If you do not plan to take this course you must officially withdraw by Sunday, October 22. If you do not officially drop this course and do not attend and complete assignments all semester you will receive an F grade.



- 18. Writing-style Requirements: All formal written assignments requiring citations should follow APA (6<sup>th</sup> edition) guidelines for writing. On written assignments, points will be deducted for excessive grammatical errors so please seek help from the writing center if necessary. The following link provides a quick overview of major formatting you need to be aware of: <a href="http://owl.english.purdue.edu">http://owl.english.purdue.edu</a>
- 19. <u>Attendance:</u> You are expected to be in attendance at any and all classes. If you are absent, get the notes from a colleague and don't get behind. *Friday labs cannot be made up, but alternatively, you can write a paper that focuses on the content you missed in order to get the points for the assignment (and some of the information).* 
  - a. <u>Paper Substitute</u>: Students are to develop a paper that explores the issue/topic of the day. Students must use a myriad of resources, including peer-reviewed articles and popular culture perspectives. Papers should be 2 pages in length. Paper formatting: 2 pages, Times New Roman font, size 12 font, single-spaced, 1" margins. The alternative assignment is due at the same time/day the normal lab report would be handed in.

#### **Grading Scale:**

A+	97%	C+	77%
A	93%	C	73%
A-	90%	C-	70%
B+	87%	D+	67%
В	83%	D	63%
B-	80%	D-	60%
		F	59% & Below

#### **Evaluation & Assessments:**

### 1. Reading Discussion Questions/Answers: 11 Posts (5 pts. each)- 55 pts. Total

Students will provide both discussion questions and responses to classmates' questions in the discussion forum of Canvas. These will coincide with the day's readings. This activity will be graded on a completion basis, however, poor responses will result in no credit being earned. The goal here is to get students to think critically about the readings, to bring up points of confusion or contention, and to respond to each other.

Discussion question are due at **8 AM the day the readings are discussed in class**. <u>Points will not be credited to late postings-</u>however it is best for your learning to do them even if they are late.

- Students need to post **one question**, considering the following types of questions:
  - A broad, synthesis question that pulls threads from all the readings together into one question.
    - Example synthesis question: How can understanding the role that sustainable agriculture plays in mitigating the climate crisis lead to more equitable land policy? How can we ensure that the farms that receive land in the upcoming transition will employ the requisite regenerative techniques to combat climate change? (Attributed to: A. Nony Mous)
  - A specific, more detail-oriented question that gets at understanding and/or debating a specific point or issue from one of the readings.
    - Example specific question: The Land Policy Report covers a lot of ideas and ways to support a more just land transition. It also discusses the issues with treating land as a commodity. What do you believe it would take to move away from the concept of land ownership? (Attributed to: A. Nony Mous)
- Students must respond to **two questions** of their choosing.
  - Example answer to a question on BIPOC farmers and land access:
    - These three concepts are separate, but interconnected barriers preventing BIPOC farmers from acquiring land. Access of land most broadly connects the terms of availability and affordability, being that in order for land to be accessible it must be available to buy and within a farmer's price range. Other factors that tie into accessibility are mentioned within the document including whether or not land sales are publicized (a lot of exchange is through word of mouth), whether or not there are discriminatory practices preventing eager buyers from purchasing the land based on their race or other identity, and thirdly whether or not an individual has complete say in the land they wish to acquire ie. through

heirs property (there are other factors connected to land accessibility, and these are just a few). Availability and affordability are more straight forward but equally problematic barriers to BIPOC individuals acquiring land. In order to address each barrier similar measures can be taken. Policy addressing and condemning discrimination within the agricultural sector is crucial. Greater loans made available to beginning farmers must be expanded. Agricultural extension networks should prioritize reaching out to and supporting populations historically excluded from land ownership and farming. These are just a few approaches to addressing the barriers of land accessibility, availability and affordability.

### 2. Lab Reports: 9 labs (10 pts. Each)- 90 pts. total

Lab reports will be assigned for Friday class sessions, including with each field lab, set of presentations, guest panelists, etc. These will be given out on a weekly basis and due one-week following the experience. All are due on Canvas by 8 AM.

- Farmer's Market Lab: Choose on local farmers' market and complete the following: (1) conduct background research on the markets (via online resource) and (2) visit the market, taking detailed notes (crowd, farmers, booths, prices, social dynamics, etc.). Write up a 1-page reflection on the market, discussing the peculiarities and what the experience might be like for the farmers and the patrons. For the how you would choose to engage in this particular market as a vendor and what you would alter about it to make it a better fit for you. Markets to choose from include:
  - Bloomington Community Farmers' Market (Saturday mornings)
  - People's Market (Saturday mornings)
  - Spencer Market (Saturday mornings in western Spencer, IN)
  - Martinsville Market (Saturday mornings at public library)
  - Nashville Market (Sundays in Nashville, IN)
  - Smithville Market (Saturday mornings in Smithville)
  - Tuesday Market (Tuesdays, 4-7 at Switchyard Park Pavilion)
  - Woolery Market (Saturday mornings at Woolery Mill)
  - Other- run it by me
- 3. Mini-Lecture (Grad Students Only) (25 pts.): Grad students will choose a week and topic to develop a 12-15 minute lecture that presents a section of the week's content, based on assigned readings and other supplementary materials. Work with the instructor during weeks 1 and 2 of the class to choose date and topic.
- 4. Final Exam (undergrad exams- 100 pts. / grad exams- 125 pts.): 11/22 in class
- 5. Final Term Project:
  - i. Farm Design Project (100 pts. Undergrad): Students will work individually to conceptualize a sustainable and regenerative farm, engaging in activities such as land searching, crop planning, infrastructure conceptualization, marketing and distribution, etc. Students will develop a written farm plan and present their conceptualization to the class.
  - ii. Literature Review or Podcast (125 pts. Grad): Students will choose a critical topic in sustainable agriculture to delve deep into and explore the literature in a

scholarly manner. Students will seek to understand the common themes and gaps within the literature, outlining future directions for research that informs both practitioners and scholars. Students are encouraged to frame the piece for submission to a journal for publication consideration. Requirements will be discussed and negotiated with the instructor. Alternatively, students can choose to develop a 20 minute podcast that also includes an interview with a professional expert. More details to come!

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Day	Date	Торіс	Readings/Assignment/Activities	Meeting Location	Time	Assignment Due
1W	8/28	Intro to the class	Agriculture	Ostrom	3- 4:15	
1F	8/30	Intro to the class	What is sustainable agriculture?  Gift of Good Land- Wendell Berry Shealy (2023). https://religionnews.com/2023/04/12/a-grain-farmer-applies-buddhist-principles-to-preserve-the-land-and-maximize-taste/ Lam, F. & Penniman, L., 2020: https://www.splendidtable.org/episode/2020/07/31/farm-garden-cook - podcast-listen from the beginning through minute 22.	IU Campus Farm	8-12	
2W	9/4	ISO Farmland & Other Considerations for New Farmers	New Farmers  • <a href="https://www.youngfarmers.org/land/wp-content/uploads/2020/11/LandPolicyReport.pdf">https://www.youngfarmers.org/land/wp-content/uploads/2020/11/LandPolicyReport.pdf</a> • Valliant et al., 2020. <a href="https://doi.org/10.5304/jafscd.2020.092.006">https://doi.org/10.5304/jafscd.2020.092.006</a> • Leslie, I. S. (2019). Queer Farmland: Land Access Strategies for Small-Scale Agriculture. <a href="https://www.nytures.com/sounded-948-946">https://www.nytures.com/sounded-948-946</a> . <a href="https://www.nytures.com/2021/06/09/nyregion/hudson-valley-farms.html">https://www.nytures.com/2022/06/09/nyregion/hudson-valley-farms.html</a>	Ostrom	3- 4:15	Q/A Post 1
2F	9/6	New Farmer Panel	Lab 1: Panel Conversation @ Will Detmer Park- Shelter House  • Marie O'Neill (Outlier Farm)  • Andrea Jackson (Back 40)	Ostrom	8-12	
3W	9/11	Selling	Farmers' Markets  • Robinson and Farmer (2017)- Chs. 2 and 3  • Hendrickson (2005)  • Stewart (2006)- A Day at the Market	Ostrom	3- 4:15	Q/A Post 2
3F	9/13	Selling	Lab 2: Farmers' Market Visit		On own	L1 Due
4W	9/18	Selling	Where to Sell  • Wholesaling local foods- <a href="https://foodsystems.extension.org/choosing-wholesale-markets-for-local-food-products/">https://foodsystems.extension.org/choosing-wholesale-markets-for-local-food-products/</a>		3- 4:15	Q/A Post 3

45	0.420		<ul> <li>Craven et al. 2016</li> <li>Farmer et al WV Organics</li> <li><a href="https://www.huffingtonpost.com/eve-turow/you-need-to-know-what-food-regulation_b_5596171.html">https://www.huffingtonpost.com/eve-turow/you-need-to-know-what-food-regulation_b_5596171.html</a></li> <li>Discuss final project and assign due dates</li> </ul>		0.12	
4F	9/20		Lab 3: Bloomington Farm Stop Collective		8-12	Lab 2 Due
5W	9/24	Specialty Crops: Field Production	<ul> <li>Howell, 2012</li> <li>Layton, Organic Insect Control</li> <li>Tripp &amp; McReynolds, 2019</li> </ul>	Ostrom	3- 4:15	Q/A Post 4
5F	9/27	Specialty Crops: Field Production	L4: Sobremesa		8-12	Lab 3 Due
6W	10/2	Specialty Crops: Soils	<ul> <li>Happ (2022). Payments for Pollution</li> <li>Kean &amp; Buckler, Soils</li> <li>Clark, SARE Cover Crops</li> </ul>		3- 4:15	Q/A Post 5
6F	10/4	Specialty Crops: Soils	L5: Ted Everett Auction		8-12	Lab 4 Due
7W	10/9	Final Project	Final Projects assigned- class meeting dedicated to discussing	Ostrom	3- 4:15	
7F	10/11	Fall Break	Fall Break		8-12	Lab 5 Due
8W	10/16	Specialty Crops: High Tunnels	<ul> <li>Bruce et al., HTHB</li> <li>Bruce, A.B., L.T. Maynard, J.C.D. Valliant, and J.R. Farmer. 2021. Farm type and high tunnel management: Connections between farm characteristics and high tunnel outcomes in Indiana. HortTechnology.</li> <li>Maynard &amp; O'Donnell, 2019. <a href="https://www.extension.purdue.edu/extmedia/ho/ho-297-w.pdf">https://www.extension.purdue.edu/extmedia/ho/ho-297-w.pdf</a></li> </ul>	Ostrom	3- 4:15	Q/A Post 6
8F	10/18	Specialty Crops: High Tunnels	L6: Mauverneen		8-12	
9W	10/23	Beef & Sheep	<ul> <li>Organic Production of Sheep</li> <li><a href="https://medium.com/center-for-biological-diversity/theres-no-such-thing-as-sustainable-beef-544c6ddef872">https://medium.com/center-for-biological-diversity/theres-no-such-thing-as-sustainable-beef-544c6ddef872</a></li> <li>Eshel et al., 2017. <a href="https://www.nature.com/articles/s41559-017-0390-5.pdf">https://www.nature.com/articles/s41559-017-0390-5.pdf</a></li> </ul>	Ostrom	3- 4:15	Q/A Post 7
9F	10/25	Beef & Sheep	L7: Marble Hill	Motorpool	8-12	L6 Due

10W	10/30	Dairy	<ul> <li>Back2Roots Podcast on Dairy Cattle Feeding</li> <li>Snorek, J., Cummings, W., Hryniewicz, E., Stevens, K., &amp; Iannuzzi, R. (2023). Diversification strategies for the resilience of small New England dairies. Journal of Agriculture, Food Systems, and Community Development, 12(3), 9–29. <a href="https://doi.org/10.5304/jafscd.2023.123.004">https://doi.org/10.5304/jafscd.2023.123.004</a></li> <li>ATTRA- Grass Based Dairy</li> <li>Kuhnen et al. <a href="https://extension.missouri.edu/publications/g3052">https://extension.missouri.edu/publications/g3052</a></li> </ul>	Ostrom	3- 4:15	Q/A Post 8
10F	11/1	Dairy	Lab 8: Twin Springs Creamery		8-12	Lab 7 Due
11W	11/6	Beef, Poultry, & Pigs	<ul> <li>Past Pork Cons Pract NCS</li> <li>Sustainable Beef Production</li> <li>Organic Production of Poultry</li> </ul>	Ostrom	3- 4:15	Q/A Post 9
11W	11/8	Beef, Poultry, & Pigs	Lab 9: Maple Valley Farm	Maple Valley	8-12	Lab 8 Due
12W	11/13	Farming & Food Justice	<ul> <li>White, M. Freedom Farmers, Part 1</li> <li>What does it mean to do food justice?</li> <li>Growing Food and Justice: Dismantling Racism through Sustainable Food Systems</li> </ul>	Ostrom	3- 4:15	Q/A Post 10
12F	11/15	Farming & Food Justice	<ul> <li>White, M. Freedom Farmers, Part 2</li> <li>Brasier et al. 2014</li> <li>Shisler &amp; Sbicca, 2018</li> </ul>	Ostrom	8-12	Q/A Post 11 L9 Due
13W	11/20	Farming & Food Justice	Socratic Seminar	Ostrom	3- 4:15	
13F	11/22	Final Exam	Final Exam	Ostrom	8-12	
			Thanksgiving Break	·		
14W	12/4	FP Meetings w/ Farmer	Individual scheduled meeting with Farmer	Ostrom	3- 4:15	
14F	12/6	Proj. Pres.	Presentations 1-8	Ostrom	8-12	
15W	12/11	Proj. Pres.	Presentations 9-12	Ostrom	8:30- 12:00	
15F	12/13	Proj. Pres.	Presentations 13-20	Ostrom	4:45- 6:00	