BIOLOGY 498 H02 Special Topics: Biology of Sustainable Food Systems
Spring 2024, TUES and THURS 2:30pm – 4:00pm, Cullimore 111

Instructor: Dr. Maria Stanko
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Course website:
http://canvas.njit.edu/

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Office Hours: Thursdays 10am-1pm, or by appointment.

Course Description: Our food system faces many challenges: urbanization, agricultural intensification, and climate change are contributing to an increasingly vulnerable food system. Can food systems sustainably and equitably provide food for all humans in a changing world? Students will summarize existing information, identify key research gaps, and assess the scalability and sustainability of current practices. As a class, we will explore the role of biologists in envisioning a more sustainable food system, considering diverse perspectives from across the globe.

Instructional Delivery Mode: This course is offered in the face-to-face instructional delivery mode, and in-person attendance is expected.

Course Texts:
FAO. 2023. The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems. ISBN: 978-92-5-138167-0.
FAO, IFAD, UNICEF, WFP and WHO. 2023. The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum. ISBN: 978-92-5-137226-5.
Imhoff, D. and C. Badaracco. 2019. The Farm Bill: A Citizen's Guide. Island Press. ISBN: 9781610919746.

Additional Readings/Media: Additional readings and videos will be used to supplement the course texts and to serve as the basis for class assignments and discussions. All additional readings will be posted to the course Canvas site.

Learning Objectives: Students will:
- Identify the important natural and human components of food systems at local, national, and global scales.
- Apply biological concepts to explain the impacts of human food systems on the planet's ecosystems and climate.
- Investigate the role of policy in promoting sustainable food systems.
- Integrate course topics in the management of the campus food forest.
- Formulate and evaluate predictions for the future of food, considering the context of climate change, human population growth, and socioeconomic factors.
- Read critically and be able to form and communicate opinions on complex issues.
- Collaborate with colleagues to conceive of and execute an inquiry-based final project.

Disability Statement: Please let me know if you need accommodations for a disability. If you are in need of accommodations due to a disability please contact Chantonette Lyles, Associate Director of the Office of Accessibility Resources & Services (OARS), to discuss your specific needs:
https://www.njit.edu/studentsuccess/accessibility

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Course Policies:

- All course materials (including recordings of lectures) are provided for your own use only. No posting/sharing anywhere.
- You must check Canvas regularly and ensure that you regularly check the email address associated with your Canvas profile.
- Late assignments are accepted but penalized 10% per day late.
- Compliance with current NJIT Covid-19 policies and other safety policies is required.
- If you miss a quiz or an assignment deadline due to an excusable absence, contact Dr. Stanko as soon as possible and submit documentation of your absence via the Student Absence Verification Request at the Office of the Dean of Students. If your absence is related to university sports, please submit the relevant documentation to Dr. Stanko.

Grade Scale: Grades will be assigned based on the percentage (rounded to a whole number) of points you earn out of the total possible, following the standard grade scale (90%+ A, 85-89% B+, 80-84% B, 75-79% C+, 70-74% C, 60-69% D, <60% F).

Participation	25
Paper Discussions (25pts x 4)	100
Unit Synthesis Post	25
Quizzes (20pts x 5)	100
Food Forest Project	100
TOTAL	350

Assessment of Learning:
Participation – This course involves extensive discussion of course topics and readings. Participation includes evidence of preparation and effort and will be assessed via verbal discussion, relevant participation during class, and contributions to class activities.
Paper Discussions - This assignment is designed to help you develop skills in critical reading, science presentation, and facilitating discussion. Students choose one scientific paper related to the course unit to summarize, relate to unit themes. Students lead a brief discussion following their presentation. Each student will do this assignment four times over the course of the semester.
Unit Synthesis Post – At the end of each unit, students will synthesize the content and key messages of each unit. For each unit, one student will be assigned to summarize and communicate this synthesis more broadly in the form of a written "blog" post. Each student will be responsible for one unit synthesis post.
Quizzes – At the end of each unit, a quiz will be given to assess students' understanding of concepts that we have covered in class and the ability to apply that knowledge. Quizzes will be a combination of multiple choice and short answer questions.
Project – As a class, we will work together throughout the semester to design and implement a collaborative project related to the food forest. Each student's contribution will be assessed independently. Tasks may vary depending on the nature of the project chosen.

Academic Dishonesty: Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf. Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu.

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Course schedule: Please note that this is the proposed schedule, but I am likely to revise it as needed as the semester progresses; you will be notified of any changes, and the course Canvas page will be continuously updated. Readings and details of assignments will be posted to the course Canvas page.

Week	Date	Topic	Unit
1	16-Jan	Course Introduction, Intro to Sustainable Food Systems	Introduction & History
	18-Jan	Green Revolution and Movie: "The Man Who Tried to Feed the World"	
2	23-Jan	US: What is the Farm Bill, why does it matter, who benefits from it?	
	25-Jan	US: Farm Bill History and Changing Face of Agriculture	
3	30-Jan	*Food forest work day – food forest seed and plant plans*	
	1-Feb	**Student-led Paper Discussions** and Unit Synthesis	
4	6-Feb	**Quiz 1 – Intro & History**, Review of Climate Change	
	8-Feb	Impact of Food Production on Climate Change	Food Production
5	13-Feb	Impact of Climate Change on Food Production	
	15-Feb	Crop Subsidies, Farm Scale, Ethanol	
6	20-Feb	*Food forest work day*	
	22-Feb	**Student-led Paper Discussions** and Unit Synthesis	
7	27-Feb	**Quiz 2 – Food Production**, *Food forest work day*	
	29-Feb	Globalization and Food Security	Food Distribution
8	5-Mar	Transportation and Scale	
	7-Mar	*Food forest work day*	
	12-14-Mar	NO CLASS - SPRING BREAK	
9	19-Mar	**Student-led Paper Discussions** and Unit Synthesis	
	21-Mar	**Quiz 3 – Food Distribution***, Food forest work day*	
10	26-Mar	Food Waste, Food Loss	Food Consumption
	28-Mar	Nutrition, Hunger, Public Health	
11	2-Apr	Student-led Paper Discussions and Unit Synthesis	
	4-Apr	**Quiz 4 – Food Consumption**, *Project work day*	
12	9-Apr	*Project work day*	Sustainable Food Future
	11-Apr	Informed Decisions, Supporting Transformation	
13	16-Apr	Visions of Sustainable Food Futures	
	18-Apr	**Student-led Paper Discussions** and Unit Synthesis	
14	23-Apr	*Project work day*	
	25-Apr	**Quiz 5 – Sustainable Future**, Class Wrap	