HUN 4936: Seeds4Life: Introduction to Food Systems

I. General Information

Class Meetings

- Semester: Fall 2025
- Time: Tuesday 11:45-12:35 / Thursday 11:45 – 1:40pm
- Location: Tuesday : MCCA 2196
  Thursday : AFPL 101

Instructors

- Lead Instructor: Jeanette Andrade, Assistant Professor (Food Science and Human Nutrition)
- Office: Food Science and Human Nutrition Building, Room 467B
- Office Hours: Monday and Wednesday, 12:00-1:00pm, or by appointment
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Course Description

This course explores barriers and facilitators of maintaining health through a food systems lens. Relying on the disciplines of animal sciences, food science, and human nutrition, the course investigates and reflects on the issues of global food and nutrition from economic, food science, nutrition and animal science perspectives. Major themes include the global food supply from the lens of economics and human behavior, global food and nutrition security, animal and plant production and consumption, nutrition and diseases, educating stakeholders, sustainability with growing/raising foods and biotechnology and packaging. These themes are represented on an international level, with local and regional examples presented for classroom discussions and activities. Through field trips to local facilities (farms – animals and aquatic, gardens, and pilot plants), classroom discussions, reflections, and assignments students will grapple with the essential question of the feasibility to improve global health through food systems. The course will culminate with a presentation in which students synthesize the insights from this course and how they will implement it within their future career. 3 credits.

Required Readings and Works

There is no textbook for this course, but various articles, videos, etc. (listed below in the Course Schedule) will be made available through the class Canvas page.

Materials and Supplies Fees: n/a

II. Graded Work

Description of Graded Work

Graded Activity	*Points*	*Percentage of Grade*
Simulations (4)	25 points each (100 points total)	30.8
Reflections (5)	5 points each (25 points total)	7.6
Presentation/paper	50 points	15.4

Class Assignments (3)	50 points each (150 points total)	46.2
Total	**325 points**	**100**

Simulations: 75 total points – 4 simulations (25 points each)

- In certain weeks of the course, you will be presented with scenarios. You will respond to those questions accordingly.

Reflection: 15 total points – 5 reflections (5 points each)

- In certain weeks of the course, you will reflect upon aspects of the discussions to discuss the current and future impact it will have on one's health and potential solutions for people to eat more/eat less, etc.

Presentation: 50 points

- In lieu of the final, you will present information about the research. Focusing on your findings and potential solutions and what cultural differences there are regarding the types of food vendors, food, knowledge, etc.
    - Grading:
        - Paper: 30 points
        - Presentation Materials (PowerPoint or other visuals): 10 points
        - Presentation: 10 points

Class Assignments: 150 total points

- Food system visualization: 50 total points
    - In week 1 and week 15, you will create your concept of the food system in a visual format and how it impacts your future career or current career projection.
    - In a ½ page single-spaced, you will discuss your food system concept.
- Eating well on $4 per day: 50 points
    - Participate in the SNAP Hunger Challenge (visit https://moveforhunger.org/snap-challenge for more information on the Challenge) for 3 days. The SNAP Hunger Challenge challenges you to eat at the SNAP level of $4.25/day. During these days, you will indicate what you ate and the total cost for the day. As part of this simulation, provide no more than 1-page single-spaced reflection on your thoughts/feelings about the challenge and how this may help you with communicating or aiding individuals who participate in SNAP.
    - Developing resource for stakeholder: 50 points
        - Working in pairs, you will identify a group (e.g. kids, farmers, etc) and create a resource that stakeholders will use based on a topic of choice that is culturally appropriate with graphics and text. For example, how to water your garden with minimal resources.

Research: 50 total points

- In groups of 3-4, you will work together to conduct a needs assessment of food vendors around the Gainesville area and compare/contrast the differences.
    - Perceptions of food vendors – 10 points
        - For this assignment, each group will compile their perceptions of food vendors (restaurants/fast food chains/quick sit-down restaurants/street

vendors). Can portray this assessment in bullet point format or another graphical representation. Also, include an idea of which vendors you would like to target for this research project.

- Questions for the food vendors – 15 points
  - Provide at minimum 10 questions that you would like to obtain from the vendors you will be focusing on for this research.
  - Indicate if the questions will be multiple choice / scale based or open-ended and the reason for this format.
  - Provide the overall research question / purpose statement that you would like to address through this line of questions.
- Initial report on the research progress – 25 points
  - In at least a 1-page double spaced document, indicate the progress of your research. This may include – how many people who have talked with, who you would like to talk with still, what you are finding out so far and what issues you have discovered.
  - If there are problems or strategies that you have found out through this process, please include.

III. Annotated Weekly Schedule

Dates	Topic	Lecture	Readings	Assignments	Due Dates
Role of Humans in the Food System					
Week 1: 8/21	Food Systems 101	JM Andrade	Brouwer ID, McDermott J, Ruben R. Food systems everywhere: Improving relevance in practice. Global Food Sec. 2020; 26: 1-10. Ho MD. A new vision for food. WWF. 2022; 27-43.	What does the food systems mean to you? - assignment	8/26
Week 2: 8/26-8/28	Global Food Supply - Education	JM Andrade	Dundore L. Racial equity tools for food systems planning. University of Wisconsin- Madison. 2017. Dipayan Sarkar, Jacob Walker-Swaney, Kalidas Shetty, Food Diversity and Indigenous Food Systems to Combat Diet-Linked Chronic Diseases, Current Developments in Nutrition, Volume 4, Issue Supplement_1, January 2020, Pages 3–11, https://doi.org/10.1093/cdn/nzz099	Human's influence on the food system – simulation Perceptions of food vendors / who will participate? – research	8/26 8/28
Week 3: 9/2-9/4	Global Food Supply – Human behavior	JM Andrade	Chen PJ, Antonelli M. Conceptual models of food choice: Influential factors related to foods, individual differences and society. Foods. 9(189): 1-21. Monterrosa EC, Frongillo EA, Drewnoski A, de Pee S, Vandevijvere S. Sociocultural influences on food choices and implications for sustainable healthy diets. Food Nutr Bulletin. 2020. 41(2S): S59-S73.	Human's differences in the food systems - reflection	9/4
Week 4: 9/9-9/11	Global Food Supply – Leadership and Economy	P Lamino / Farnsworth	Fan S. Economics in food systems transformation. Nature. 2021; 2: 218-219. Fan S, Headey D, Rue C, Thomas T. Food systems for human and planetary health: Economic perspectives and challenges. Ann Rev Resour Econ. 2021; 13:131-136.	What type of leader are you? – reflection	9/11
Week 5: 9/16-9/18	Safety of our food / Food security	R Farzad / JE Andrade	Rochefort G, Lapointe A, Mercier A-P, Parent G, Provencher V, Lamarche B. A Rapid Review of	Eating well with $4/day based on country of choice – assignment	9/25

	and impact on food systems		Territorialized Food Systems and Their Impacts on Human Health, Food Security, and the Environment. Nutrients. 2021; 13(10):3345. https://doi.org/10.3390/nu13103345. Mok WK, Tan YX, Chen WN. Technology innovations for food security in Singapore: A case study of future food systems for an increasingly natural resource-scare world. Trends Food Sci Technol. 2020; 102:155-168.		
Week 6: 9/23-9/25	Nutrition security and impact on food systems - diseases	JM Andrade	Branca F et al. Transforming the food system to fight non-communicable diseases. BMJ. 2019. 365(S1). Ringler C et al. Water for food systems and nutrition. IFPRI. 2021. 1-13.	Environmental food scan and reducing/increasing diseases – simulation Designing questions for the food vendors / observations - research	9/25 10/2
Role of animals in the food systems					
Week 7: 9/30-10/2	Meat production and consumption	Mateescu / Tour of meat processing center	Fanzo J et al. Sustainable food systems and nutrition in the 21st century: A report from the 22nd annual Harvard Nutrition Obesity symposium. Am J Clin Nutr. 2022. 115: 18- 33. Oosting, S., van der Lee, J., Verdegem, M. et al. Farmed animal production in tropical circular food systems. Food Sec. 14, 273–292 (2022). https://doi.org/10.1007/s12571-021-01205-4		
Week 8: 10/7 – 10/9	Dairy production and consumption	Nelson / JM Andrade	Capper JL., Cady RA. The effects of improved performance in the US dairy cattle industry on environmental impacts between 2007 and 2017. J Ani Sci. 2020. 1-14. Food Finance Architecture: Financing a Healthy, Equitable, and Sustainable Food System (English). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/879401632342154766/Food-Finance-Architecture-Financing-a-Healthy-Equitable-and-Sustainable-Food-System	Based on the discussion about animal-based proteins, how can we be sustainable? – reflection	10/9
Week 9: 10/14-10/16	Fish / Where we eat	R Farzad / Tour of	Mamun A, Murray FJ, Sprague M, Mcadam BJ, Roos N, De Roos B, Pounds A & Little DC (2021)	Campus food systems – simulation	10/16

		University eateries	Export-driven, extensive coastal aquaculture can benefit nutritionally vulnerable people. Frontiers in Sustainable Food Systems, 5, Art. No.: 713140. https://doi.org/10.3389/fsufs.2021.713140 Garcia-Gonzalez J, Eakin H. What can be: Stakeholder perspectives for a sustainable food system. J Agri Food Syst Commun Develop. 2019. 8(4): 61-82.	Initial report on the research progress – research	10/23
Role of plants & technology in the food system					
Week 10: 10/21-10/23	Intro to Horticulture / Tour of the gardens	Zhao / Tour of Field and Fork Gardens	Marianna S. Wetherill, Kayla Castleberry White, Christine Rivera & Hilary K. Seligman (2019) Challenges and opportunities to increasing fruit and vegetable distribution through the US charitable feeding network: increasing food systems recovery of edible fresh produce to build healthy food access, Journal of Hunger & Environmental Nutrition, 14:5, 593-612, DOI:10.1080/19320248.2018.1484315. Reid J, Simmonds D, Newbold E (2019). Wholesale produce auctions and regional food systems: The case of Seneca produce auction. Renewable Agriculture and Food Systems 34, 259–267. https://doi.org/10.1017/S1742170518000133	Farm to table is a concept but is it achievable? – reflection	10/23
Week 11: 10/28-10/30	Disposing foods / urban farmers	A Martins / Campbell	Muth et al. A systems approach to assessing environmental and economic effects of food loss and waste interventions in the United States. Sci Total Environ. 2019; 685:1240-1254. Foden M, Browne AL, Evans DM, Sharp L, Watson M. The water-energy-food nexus at home: New opportunities for policy interventions in household sustainability. Geograph J. 2019;185(4):406-418.	Basics of communicating with stakeholders – simulation Developing resource for stakeholders - assignment	10/30 11/6
Week 12: 11/4-11/6	Biotechnology – Plants and Nutrients	M Smith / JE Andrade	Rischer H, Szilvay GR, Oksman-Caldentey KM. Cellular agriculture – industrial biotechnology for food and materials. Curr Opinion Biotech. 2020;61:128-134. Scott NR, Chen H, Cui H. Nanotechnology applications and implications of agrochemicals	How can technology help/harm our food system – reflection in class	11/6

			toward sustainable agriculture and food systems. J Agric Food Chem. 2018;66(26):6451-6456.		
Week 13: 11/11-11/13	How did we come so far?	**Veteran's Day no class**/ Field trip (TBA)	Marshall Q, Fanzo J, Barrett CB, Jones AD, Herforth A, McLaren R. Building a Global Food Systems Typology: A New Tool for Reducing Complexity in Food Systems Analysis. Frontiers in Sustainable Food Systems. 2021 (5).		
Week 14: 11/18-11/20	It's up to you		No readings: presentations	Presentations about research – research & paper	12/9
Week 15: 12/2	It's up to you		No readings: presentations	Presentations about What does the food system mean to you? - assignment	12/9

VI. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the learning outcomes as follows:

- **Content***: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline(s)*.
    - Describe the basic principles of food systems, and how they impact production, distribution, and consumption of food around the globe.
- **Critical Thinking**: *Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).*
    - Evaluate the interconnectedness of food systems and planetary health, and synthesize the meaning of sustainability in the context of a food system.
- **Communication**: *Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline(s).*
    - Propose to the public, clear, and effective responses to proposed approaches, policies, or practices that address issues related to food systems.
- **Connection**: *Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.*
    - Compose personal and professional experiences towards the foods systems to enrich critical thinking skills for prospective careers or to pursue graduate degrees.

V. Required Policies

For information about UF policies regarding attendance, make-up, course expectations, grading, resources, and others, please review: UF Syllabus Policy Links - Online Course Syllabi - University of Florida