

HUN 4936: Seeds4Life: Introduction to Food Systems

I. General Information

Class Meetings

- Semester: Fall 2023
- Time: T period 5; R periods 5-6
- Location: T: MCCB 022102; R: APL 0G0101

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
- Contact: jandrade1@ufl.edu 352-294-3975

Course Description

This course explores barriers and facilitators of maintaining health through a food systems lens. 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. 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

*All assignments are due by Thursday before class, unless otherwise stated in Canvas. Late work is considered 12-hours after the due date and will be accepted for up to 3 days with a 10% deduction each day late. For example, assignment is due on Thursday at 11:45am EST; submit the assignment on Friday at 1am EST, 10% will be deducted; submit on Saturday, 20% will be deducted, etc.

<i>Graded Activity</i>	<i>Points</i>	<i>Percentage of Grade</i>
Simulations (3)	25 points each (75 points total)	24.6%
Reflections (3)	10 points each (30 points total)	9.8%
Presentation/paper	100 points	32.8%
Class Assignments (2)	50 points each (100 points total)	32.8%
Total	305 points	100%

Simulations: (21% of grade) – 3 simulations (25 points each)

- In certain weeks of the course, you will be presented with between 1-3 scenarios. You will respond to those questions accordingly.

Reflection: (8.5% of grade) – 3 reflections (10 points each)

- In the first and last week of class, you will present your ideation of food systems
- Based on the sustainability field trip, in no more than a 1-page single-spaced paper, you will reflect on the current and future impact it will have on one's health and potential solutions for people to eat more/eat less, etc.

Presentation: (28.1% of grade) – 100 points

- In lieu of the final, in groups of 5, work together to either 1) create a new food or 2) new way of packaging using the information discussed within the course. Be creative! Use graphics to showcase what you are making and why.
 - Grading:
 - Paper: 50 points
 - Need to include why this product/packing was developed and the target population that it will help. Include a minimum 10 references.
 - Presentation Materials (PowerPoint or other visuals): 25 points
 - Presentation: 25 points

Class Assignments: (42.4% of grade)

- SNAP hunger challenge: 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 \$4.23/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 a resource for stakeholder: 50 points
 - In groups of 2-3, you will identify a population (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.

Grading Scale

For information on how UF assigns grade points, visit: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

A	93 – 100%		C	74 – 76.9%
A-	90 – 92.9%		C-	70 – 73.9%
B+	87 – 89.9%		D+	67 – 69.9%
B	84 – 86.9%		D	64 – 66.9%
B-	80 – 83.9%		D-	60 – 63.9%
C+	77 – 79.9%		E	<60%

III. Annotated Weekly Schedule

Week	Dates	Topic	Lecturer	Activities/ Assignments
The Big Picture: Overview of food systems and players involved				
1	8/25 – 9/1	Food Systems 101	JM Andrade	What does food systems mean to you? Due 9/1
2	9/6 - 8	Global Food Supply – Economics Prospective	Farnsworth	
3	9/13- 15	Global Food Supply – Human behavior prospective	JM Andrade	Simulation on our global food supply over the next 15 years
Output first				
4	9/20 - 22	Nutrition– Impact on food systems	JM Andrade	
5	9/27 - 29	Food security and impact on food systems	JE Andrade	SNAP challenge due 10/6
6	10/4 - 6	Nutrition and Diseases – Impact on Food Systems	Montazeri / JM Andrade	Simulated scenarios to reducing/preventing diseases
Looking at the drivers: Land, Sea and Animals				
7	10/11 (Nelson) – 13 (Mateecu)	Dairy and Meat production and consumption	Nelson / Mateecu	
8	10/18 (Betiku)- 20 (Farzad)	Fish production and consumption	Farzad/ Betiku	
9	10/25 - 27	Produce production and consumption	Martin	
10	11/1 - 3	Sustainably growing/disposing foods	Prizzia	Visit to Field & Fork/ Reflection due 11/10
What is there to do?				
11	11/8 - 10	Educating stakeholders – the basics	JM Andrade	
12	11/15 - 17	Educating stakeholders - Cultural competence	JM Andrade	Simulated scenarios at educating stakeholders / Developing resource for stake holder’s due 12/1
13/14	11/22 (Andrade) – 29 (Farzad)	Biotechnology – Sea & nutrients	Farzad / JE Andrade	
	12/1	How did we come so far?	Panelists – Academic, Industry, Field	What does food systems mean to you? due 12/1
15	12/6	It’s up to you		Presentations

IV. Readings

Week 1 (8/25-9/1):

1. Brouwer ID, McDermott J, Ruben R. Food systems everywhere: Improving relevance in practice. *Global Food Sec.* 2020; 26: 1-10.
2. Ho MD. A new vision for food. *WWF.* 2022; 27-43.

Week 2 (9/6-8):

1. Fan S. Economics in food systems transformation. *Nature.* 2021; 2: 218-219.
2. 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.

Week 3 (9/13-15):

1. Chen PJ, Antonelli M. Conceptual models of food choice: Influential factors related to foods, individual differences and society. *Foods.* 9(189): 1-21.
2. 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.

Week 4 (9/20-22):

1. Medicine. Overview of nutrients and calories. 2022. Retrieved from [https://med.libretexts.org/Courses/Metropolitan_State_University_of_Denver/Introduction to Nutrition \(Diker\)/01%3A Foundational Concepts/1.02%3AOverview of Nutrients and Calories – focus on chapters 1 and 2](https://med.libretexts.org/Courses/Metropolitan_State_University_of_Denver/Introduction_to_Nutrition_(Diker)/01%3A_Foundational_Concepts/1.02%3AOverview_of_Nutrients_and_Calories_-_focus_on_chapters_1_and_2)
2. Ringler C et al. Water for food systems and nutrition. *IFPRI.* 2021. 1-13.

Week 5 (9/27-29):

1. Rochefort G, Lapointe A, Mercier A-P, Parent G, Provencher V, Lamarche B. A Rapid Review of 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>.
2. 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 (10/4-6):

1. 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.
2. Branca F et al. Transforming the food system to fight non-communicable diseases. *BMJ.* 2019. 365(S1).

Week 7 (10/11-13):

1. 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.

2. 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 (10/18-20):

1. Simmance FA et al. Nudging fisheries and aquaculture research towards food systems. *Fish Fisheries.* 2021; 23(1):34-53.
2. Mamun A, Murray FJ, Sprague M, Mcadam BJ, Roos N, De Roos B, Pounds A & Little DC (2021) 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>

Week 9 (10/25-27):

1. 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
2. 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>

Week 10 (11/1-3):

1. 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.
2. 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.

Week 11 (11/8-10):

1. 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.
2. Pope H et al. Developing a functional food systems literacy for interdisciplinary dynamic learning networks. *Frontiers.* 2021. 5: 1-13.

Week 12 (11/15-17):

1. Dundore L. Racial equity tools for food systems planning. University of Wisconsin-Madison. 2017.
2. 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>

Weeks 13/14 (11/22-12/1):

1. Rischer H, Szilvay GR, Oksman-Caldentey KM. Cellular agriculture – industrial biotechnology for food and materials. *Curr Opinion Biotech.* 2020;61:128-134.

2. Scott NR, Chen H, Cui H. Nanotechnology applications and implications of agrochemicals toward sustainable agriculture and food systems. *J Agric Food Chem.* 2018;66(26):6451-6456.

Week 15 (12/6): No readings

V. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the [Quest](#) and [General Education](#) 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

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx> , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at <http://writing.ufl.edu/writing-studio/> or in 2215 Turlington Hall for one-on-one consultations and workshops.