

HUN 4936: Seeds4Life: Introduction to Food Systems

I. General Information

Class Meetings

- Semester: Fall 2023
- Time: Tuesday 11:45-12:30 / Thursday 11:45 – 1:40pm
- Location: Tuesday TUR 022350
Thursday MCCB 033108

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. 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

<i>Graded Activity</i>	<i>Points</i>	<i>Percentage of Grade</i>
Simulations (4)	25 points each (100 points total)	25%
Reflections (4)	5 points each (20 points total)	5%
Presentation/paper	80 points	20%
Class Assignments (4)	50 points each (200 points total)	50%
Total	400 points	100%

Simulations: (25% of grade) – 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: (5% of grade) – 4 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: (20% of grade) – 80 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: 40 points
 - Presentation Materials (PowerPoint or other visuals): 20 points
 - Presentation: 20 points

Class Assignments: (50% of grade)

- Food system visualization: 50 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 \$4.23/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 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 points
 - In groups of 3, you will work together to conduct a needs assessment of food vendors around the Gainesville area (or you could branch out). You will compare your findings to food vendors in Cuenca, Ecuador.

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

Dates	Topic	Lecture	Readings	Assignments	Due Dates
Weeks 1: 8/24 – 8/31	Food Systems 101	JM Andrade / Research in the area of food systems	Brouwer ID, McDermott J, Ruben R. Food systems everywhere: Improving relevance in practice. <i>Global Food Sec.</i> 2020; 26: 1-10. Ho MD. A new vision for food. <i>WWF.</i> 2022; 27-43.	What does food systems mean to you? - assignment	9/7
Week 2: 9/5-9/7	Global Food Supply - Economics	Farnsworth / The cost of food globally	Fan S. Economics in food systems transformation. <i>Nature.</i> 2021; 2: 218-219. Fan S, Headey D, Rue C, Thomas T. Food systems for human and planetary health: Economic perspectives and challenges. <i>Ann Rev Resour Econ.</i> 2021; 13:131-136.	Global cost of food – is it fair? - reflection	9/12
Week 3: 9/12-9/14	Global Food Supply – Human behavior	JM Andrade / Tour around campus with food choices	Chen PJ, Antonelli M. Conceptual models of food choice: Influential factors related to foods, individual differences and society. <i>Foods.</i> 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. <i>Food Nutr Bulletin.</i> 2020. 41(2S): S59-S73.	Human’s influence on the food system - simulation Perceptions of food vendors / who will participate? - research	9/21
Week 4: 9/19-9/21	Food security and impact on food systems	JE Andrade / Tour around downtown Gainesville	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. <i>Nutrients.</i> 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. <i>Trends Food Sci Technol.</i> 2020; 102:155-168.	Environmental food scan and reducing/increasing diseases – simulation Designing questions for the food vendors / observations - research	9/28

Week 5: 9/26-9/28	Food security and impact on food systems - diseases	JM Andrade / Tour of bread of the mighty	Branca F et al. Transforming the food system to fight non-communicable diseases. <i>BMJ</i> . 2019. 365(S1). Ringler C et al. Water for food systems and nutrition. <i>IFPRI</i> . 2021. 1-13.	Eating well with \$4/day based on country of choice – assignment	10/5
Week 6: 10/3-10/5	Dairy and Meat production and consumption	Ani Sci / 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. <i>Am J Clin Nutr</i> . 2022. 115: 18- 33. Capper JL., Cady RA. The effects of improved performance in the US dairy cattle industry on environmental impacts between 2007 and 2017. <i>J Ani Sci</i> . 2020. 1-14. Oosting, S., van der Lee, J., Verdegem, M. et al. Farmed animal production in tropical circular food systems. <i>Food Sec</i> . 14, 273–292 (2022). https://doi.org/10.1007/s12571-021-01205-4	Initial report on the research progress – research	10/12
Week 7: 10/10-10/12	Fish / Gender in the food system	Betiku / Colverson	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. <i>Frontiers in Sustainable Food Systems</i> , 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. <i>J Agri Food Syst Commun Develop</i> . 2019. 8(4): 61-82.	Gender differences in the food systems - reflection	10/17
Week 8: 10/17-10/19	Produce production and consumption	Martins / Tour of Alachua County food hub	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, <i>Journal of Hunger & Environmental Nutrition</i> , 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. <i>Renewable Agriculture and Food Systems</i> 34, 259–267. https://doi.org/10.1017/S1742170518000133		
Week 9: 10/24- 10/26	Education / Sustainability	JM Andrade / Tour of Field and Fork Campus Gardens	Pope H et al. Developing a functional food systems literacy for interdisciplinary dynamic learning networks. <i>Frontiers</i> . 2021. 5: 1-13. 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, <i>Current Developments in Nutrition</i> , Volume 4, Issue Supplement_1, January 2020, Pages 3–11, https://doi.org/10.1093/cdn/nzz099	Developing resource for stakeholders - assignment	11/9
Week 10: 10/31-11/2	Sustainably growing / disposing foods & communicating with 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. <i>Sci Total Environ</i> . 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. <i>Geograph J</i> . 2019;185(4):406-418.		
Week 11: 11/7-11/9	Soil and water	Soil / Tour of Cedar Keys	Montgomery DR and Biklé A (2021) Soil Health and Nutrient Density: Beyond Organic vs. Conventional Farming. <i>Front. Sustain. Food Syst</i> . 5:699147. doi: 10.3389/fsufs.2021.699147 Goris Y. Embrace the Earth: Soil health as a foundation to sustainable food systems. <i>The Broker</i> ; 2021. Retrieved from: https://www.thebrokeronline.eu/embrace-the-earth-soil-health-as-a-foundation-to-sustainable-food-systems/	Reflection of the sustainability tours – reflection Report of food vendor discussions - research	11/14 11/16

Week 12: 11/14- 11/16	Biotechnology – Sea and Nutrients	Farzad / JE Andrade	Rischer H, Szilvay GR, Oksman-Caldentey KM. Cellular agriculture – industrial biotechnology for food and materials. <i>Curr Opin Biotech.</i> 2020;61:128-134. Scott NR, Chen H, Cui H. Nanotechnology applications and implications of agrochemicals toward sustainable agriculture and food systems. <i>J Agric Food Chem.</i> 2018;66(26):6451-6456.	How can technology help/harm our food system - reflection	11/21
Week 13: 11/21	The future of food systems	JM Andrade	Ranney M, Shah S. The future of food: Imagining our food system in the decades to come. <i>GeoTech Cues.</i> 2020. https://www.atlanticcouncil.org/blogs/geotech-cues/imagining-our-food-system-in-the-decades-to-come/ Calicioglu, O.; Flammini, A.; Bracco, S.; Bellù, L.; Sims, R. The Future Challenges of Food and Agriculture: An Integrated Analysis of Trends and Solutions. <i>Sustainability</i> 2019, 11, 222. https://doi.org/10.3390/su11010222	What will our food systems look like in 2050? – graphical representation of the US’s 4 scenarios – simulation https://www.youtube.com/watch?v=4IKoJFx1jSI	11/30
Week 14: 11/28- 11/30	How did we come so far?	Panelists – Academic, Industry, Field	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. <i>Frontiers in Sustainable Food Systems.</i> 2021 (5). 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	What does the food system mean to you? - assignment	12/5
Week 15: 12/5	It’s up to you		No readings: presentations	Presentations about research - research	12/12

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

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.