# IDS 2935: The Evolution of Eating Quest 2

## I. General Information

## **Class Meetings**

- Spring 2024
- 100% in-person
- Tuesday 8&9 (3:00-4:55 PM) in CSE E220
   & Thursday 8 (3:00-3:50) in WEIM 1084

#### Instructor

- Rosalie Koenig, PhD
- G052A McCarty Hall D
- Office Hours Tuesdays 11:00 noon or schedule by request and alternative time and day
- rlkoenig@ufl.edu; 352-273-3495 (Office)

#### **Course TA**

- Trista Cerquera Brophy
- tbrophycerquera@ufl.edu

## **Course Description**

In this course we will explore scientific innovations that will transform future food systems. Can science create new technologies that will address present bottlenecks in agricultural production while securing a healthy, equitable diet and minimizing impacts to the environment? Humans have faced many challenges on their historical quest to secure enough food. Since the dawn of agriculture, technological innovations have shaped the way humans work, live, eat and interact with the environment. This course will explore the history of agricultural innovations while examining their social, political, economic, and environmental consequences within the context of the global food system. Through analysis of how eating evolved, we will formulate ideas on how global food systems will change and function in the future.

## **Quest and General Education Credit**

- Quest 2
- Biological Sciences

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment and the relevant processes that govern biological systems. Students will formulate empirically testable hypotheses derived from the study of living things and apply logical reasoning skills through scientific

criticism and argument and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

#### • International (N)

International courses promote the development of student's goals and intercultural awareness. Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world. Students analyze and reflect on the ways in which cultural, economic, political and/or social systems and beliefs mediate their own and other people's understanding of an increasingly connected world.

This course accomplishes the <u>Quest</u> and <u>General Education</u> objectives of the subject areas listed above. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.

## **Required Readings and Works**

Standage, T. 2009. An edible history of humanity. First edition. Walter & Company, New York.

All other readings and works are listed on the weekly scheduled and are available in Canvas.

## II. Graded Work

## **Description of Graded Work**

Your grade in this course will be based on the following assessments.

In class activities: Students are expected to come to class prepared, having reading required materials before class so that they can participate actively in class activities and discussions. During the semester, students will complete 4 in class activity assignments (individual and group) that will correspond with the weekly lesson. These activities will involve applying knowledge and skills to answer questions related to course content. Each activity will be worth 30 points and will be due on the Thursday associated with the weekly lesson.

**Exams:** There will be two in-class exams (110-minutes) during weeks 7 (on Tuesday, February 20) and 13(on Tuesday, April 9). Exam 1 will cover topics from weeks 1-5 and Exam 2 will cover topics from weeks 6-11. The exams will be worth 100 points each and will include short essay questions.

**Brief reflection essays:** Through the semester students will write 4 reflection essays based on prompts that reinforce some of the key topics that we will be exploring this semester. The reflection essays will consist of an introductory paragraph, 2-4 main body paragraphs and a concluding paragraph. The concluding paragraph MUST include how you have changed, developed, or grown from your experience or interaction with the subject matter, ideas, or topic. Each essay will be worth 50 points. See the Canvas site for more details about this assignment.

**Group written and presentation project:** Early in the semester students will be assigned a country that will be the focus of their respective projects. Students will need to do a literature review on the country and different components of the food system in the country. This will require students to understand more

fully the food system within the country. Students will use the paper template to guide their research. The first OPTIONAL draft of the paper will be due by midnight April 2. The final draft of the paper is due midnight on April 23 (worth 100 points). Groups will be responsible for creating a presentation (no more than 15 minutes) that will be delivered in class during one of the last three weeks of class. The order of the group presentations is randomly assigned, and I will provide a list of the presentations (the order) on the Canvas site. It is difficult to determine how many groups will present each day, so all groups need to be prepared to present during these class periods. The presentation is worth 80 points. See the Canvas site for more details about these assignments.

## **Grading Scale**

For information on how UF assigns grade points, visit: <a href="https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/">https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/</a>. Percentages will be determined by adding up the total number of points earned on all graded work plus any extra credit points earned in the class and dividing by the total number of possible points (650 points) on all graded assignments.

А	94 – 100%	С	74 – 76.9%
A-	90 – 93.9%	C-	70 – 73.9%
B+	87 – 90.9%	D+	67 – 69.9%
В	84 – 86.9%	D	64 – 66.9%
B-	80 – 83.9%	D-	60 – 63.9%
C+	77 – 79.9%	Е	<60

## **Grading Rubric(s)**

## **Assessment Rubric for Group Writing Assignment**

	Excellent (25 points)	Good (21.25 points)	Acceptable (18.5 points)	Insufficient (15 points)
Integration and comprehension of key course concepts	The paper demonstrates that the author(s) fully comprehends and applies concepts learned in the course. Concepts are integrated into the writer's own insights. The writer(s) conclusions clearly demonstrate analysis and synthesis of ideas.	The paper demonstrates that the author(s), for the most part, comprehends and applies concepts learned in the course. Concepts are integrated into the writer's own insights. The writer(s) conclusions demonstrate analysis and synthesis of ideas.	The paper demonstrates that the author(s), to some extent, comprehends and applies concepts learned in the course. There is little or no evidence of integration of insights or demonstration of analysis and synthesis of ideas.	The paper does not demonstrate that the author(s) fully understands or is able to apply concepts learned in the course. No evidence of integration of insights or demonstration of analysis or synthesis of ideas.

Thoughtful and focused ideas and discussion	Topic aligns with the expectations of the assignment and positions are clearly articulated. There is an in-depth discussion and elaboration in all sections of the paper.	Topic is focused but at times is not directed to the central discussion or the positions are not clear. In-depth discussion and elaboration in most sections of the paper.	The topic is too broad to support a good discussion or support positions. May lack pertinent content or content that is not directly related to the discussion. Lack of in-depth discussion and elaboration.	The topic is not clearly defined so paper lacks direction and content. Little or no evidence of in- depth discussion or elaboration.
Cohesiveness and Synthesis of ideas	Information from all sources and ideas are tied together with good flow and logic. Strongly demonstrates that information from all sources is well connected, analyzed and evaluated. Strong evidence of reflection.	For the most part, information from all sources and ideas are tied together with good flow and logic. Good demonstration that information from all sources is connected, analyzed and evaluated. Good evidence of reflection.	Sometimes ties together information from some sources. Paper lacks flow in some areas - disjointedness is apparent. Little to no demonstration of how information is connected. Little evidence of analysis, evaluation and reflection.	Does not tie together information in a meaningful way. Paper does not flow. No demonstration of how information is connected. Lacks analysis, evaluation and reflection.
Grammar and Sources	No spelling and/or grammar mistakes. More than 5 current sources, of which at least 3 are peer-review journal articles or scholarly books. Proper use of citation style.	Minimal spelling and/or grammar mistakes. Five current sources, of which at least 2 are peer-review journal articles or scholarly books. Proper use of citation style.	Noticeable spelling and grammar mistakes. Fewer than 5 current sources, or fewer than 2 of 5 are peer-reviewed journal articles or scholarly books. Citation style is either inconsistent or incorrect.	Unacceptable Excessive number of spelling and/or grammar mistakes. Fewer than 5 current sources, or fewer than 2 of 5 are peer-reviewed journal articles or scholarly books. Citation style is either inconsistent or incorrect. Does not cite sources.

(rubric adapted from: <a href="https://www.cornellcollege.edu/library/faculty/focusing-on-assignments/tools-for-assessment/research-paper-rubric.shtml">https://www.cornellcollege.edu/library/faculty/focusing-on-assignments/tools-for-assessment/research-paper-rubric.shtml</a>)

# **Assessment Rubric for Reflection Writing Assignments**

	Excellent (12.5 points)	Good (10.5 points)	Acceptable (8.75 points)	Insufficient (6.25 points)
Integration and comprehension of key course concepts	The paper demonstrates that the author fully comprehends and applies concepts learned in the course. Concepts are integrated into the writer's own insights. The writer(s) conclusions clearly demonstrate analysis and synthesis of ideas.	The paper demonstrates that the author(s), for the most part, comprehends and applies concepts learned in the course. Concepts are integrated into the writer's own insights. The writer(s) conclusions demonstrate analysis and synthesis of ideas.	The paper demonstrates that the author(s), to some extent, comprehends and applies concepts learned in the course. There is little or no evidence of integration of insights or demonstration of analysis and synthesis of ideas.	The paper does not demonstrate that the author(s) fully understands or is able to apply concepts learned in the course. No evidence of integration of insights or demonstration of analysis or synthesis of ideas.
Thoughtful and focused ideas and discussion	Topic aligns with the expectations of the assignment and positions are clearly articulated. There is an in-depth discussion and elaboration in all sections of the paper.	Topic is focused but at times is not directed to the central discussion or the positions are not clear. In-depth discussion and elaboration in most sections of the paper.	The topic is too broad to support a good discussion or support positions. May lack pertinent content or content that is not directly related to the discussion. Lack of in-depth discussion and elaboration.	The topic is not clearly defined so paper lacks direction and content. Little or no evidence of in- depth discussion or elaboration.
Cohesiveness and Synthesis of ideas	Information from all sources and ideas are tied together with good flow and logic. Strongly demonstrates that information from all sources is well connected, analyzed and evaluated. Strong evidence of reflection.	For the most part, information from all sources and ideas are tied together with good flow and logic. Good demonstration that information from all sources is connected, analyzed and evaluated. Good evidence of reflection.	Sometimes ties together information from some sources. Paper lacks flow in some areas - disjointedness is apparent. Little to no demonstration of how information is connected. Little evidence of analysis, evaluation and reflection.	Does not tie together information in a meaningful way. Paper does not flow. No demonstration of how information is connected. Lacks analysis, evaluation and reflection.
Grammar and Sources	No spelling and/or grammar mistakes. Proper use of citation style.	Minimal spelling and/or grammar mistakes. Proper use of citation style.	Noticeable spelling and grammar mistakes. Citation style is either	Excessive number of spelling and/or grammar mistakes.

	inconsistent or incorrect.	Citation style is either inconsistent or incorrect. Does not cite sources.
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(rubric adapted from: <a href="https://www.cornellcollege.edu/library/faculty/focusing-on-assignments/tools-for-assessment/research-paper-rubric.shtml">https://www.cornellcollege.edu/library/faculty/focusing-on-assignments/tools-for-assessment/research-paper-rubric.shtml</a>)

## **Assessment Rubric for Group Presentations**

	Excellent (17.5 points)	Good (14.5 points)	Acceptable (12.25 points)	Insufficient (10 points)
Integration and comprehension of key course concepts in a creative way	Presentation demonstrates clearly that the group comprehended the full scope of the topic and integrated the concepts learned in the course. Concepts are presented in a creative way that engages the audience through active learning.	Presentation demonstrates that the group comprehended the topic and integrated the concepts learned in the course. Concepts are presented in a creative way that somewhat engages the audience through active learning.	Presentation demonstrates that the group did not fully comprehend the topic and lacks integration of the concepts learned in the course. Evidence of some creativity that led to a limited level of audience engagement.	Presentation does not demonstrate that the group comprehended most aspects of the topic and there is little to no integration of the concepts learned in the course. Little to know evidence of creativity leading to poor or no audience engagement.
Organization and Evidence of Teamwork	Ideas presented in a logical order with good flow and transitions between major ideas or themes. Evidence that everyone on the team had a role and that there was a good group dynamic.	Most ideas presented in a logical order with good flow and transitions between major ideas or themes. Evidence that most members of the team had a role and that there was an adequate group dynamic.	Some of ideas presented were disjointed and flow and transitions between major ideas or themes at times were awkward. Some evidence that members worked together but there seemed to be no clear roles. Group dynamic was lacking at times leading to less cohesion.	Ideas presented were disjointed and there was a lack of flow and no clear transitions between major ideas or themes. No or little evidence of team roles or a functional group dynamic.
Delivery	Excellent volume, pace, enthusiasm, eye contact and gestures that engaged the audience. Visual aids and props were high quality, appropriate and enhanced learning.	Good volume, pace, enthusiasm, eye contact and gestures that engaged the audience. Visual aids and props were high quality,	Adequate volume, pace, enthusiasm, eye contact and gestures that engaged the audience. Visual aids and props were appropriate	Poor volume, pace, enthusiasm, eye contact and gestures leading to lack of audience engagement. Visual aids and props were low quality and did not adequately promote learning.

		appropriate and enhanced learning.	and promoted learning.	
Discussion and Responses	High level of engagement and creative organization and style led to robust discussion. Presenters did an excellent job of addressing questions from the audience.	Good level of engagement and creative organization and style led to good discussion.  Presenters did a good job of addressing questions from the audience.	Acceptable level of engagement and a fair level of organization and style led to adequate discussion.  Presenters did a fair job of addressing questions from the audience.	Poor level of engagement and lack of organization and well-thought out style led to little or no discussion. Presenters did inadequate job of addressing questions from the audience.

# III. Annotated Weekly Schedule

Week	Topics, Homework, and Assignments
Week 1 (January 9 & 11)	<ul> <li>Topic: What are the consequences of different food systems?</li> <li>Summary: The global food system represents a complex set of actors and processes that connect food production to consumption. Students will analyze the components of a food system and relate them to current political, health and environmental issues. Students will compare and contrast global case studies and identify key issues associated with food system components in different contexts.</li> <li>Required Readings/Works:</li> <li>Ambikapathi, R., Schneider, K.R., Davis, B. et al. Global food systems transitions have enabled affordable diets but had less favorable outcomes for nutrition, environmental health, inclusion and equity. Nat Food 3, 764–779 (2022). https://doi.org/10.1038/s43016-022-00588-7</li> </ul>
Week 2 (January 16 and 18)	<ul> <li>Topic: What are critical planetary boundaries, and can the human needs-based approach help us think about sustainability?</li> <li>Summary: Throughout the history of the earth, biological species have evolved, thrived and collapsed through dynamic interactions with natural and human-driven forces. Studying human population dynamics through time provides insight on the challenges and benefits of relatively small and large populations. Students will analyze the drivers and consequences of changes in human population and contemplate the innovations needed for more equitable and sustainable food systems.</li> <li>Required Readings/Works:</li> </ul>

Week	Topics, Homework, and Assignments
	Dahl R. The population equation: balancing what we need with what we have. Environ Health Perspect. 2005 Sep;113(9):598-605. doi: 10.1289/ehp.113-a598. PMID: 16140609; PMCID: PMC1280423.
	Ted talk: Let the environment guide our development. Johan Rockstrom. 19 min. <a href="https://www.youtube.com/watch?v=RgqtrlixYR4&amp;t=2s">https://www.youtube.com/watch?v=RgqtrlixYR4&amp;t=2s</a>
	<ul> <li>Optional Reading:</li> <li>O'Neill, D.W., Fanning, A.L., Lamb, W.F. et al. A good life for all within planetary boundaries. Nat Sustain 1, 88–95 (2018). https://doi.org/10.1038/s41893-018-0021-4</li> </ul>
	• Assignment: Due January 30 Reflection Paper 1: Argue the consequences of low and high populations
Week 3 (January 23 and 25)	<ul> <li>Topic: Were proto-farmers the first citizen scientists?</li> <li>Planetary boundary: Loss of biodiversity</li> <li>Summary: The practice of farming was started by humans who took advantage of the genetic diversity found in nature. Students will hypothesize how protofarmers practiced science to domesticate the crops that we rely on today. Students will gain appreciation of the history of scientific advancements in genetics that have led to plant breeding innovations overtime.</li> <li>Required Readings/Works:     Standage, T. 2009. An edible history of humanity. Pages 3-27  Rhitu Chatterjee "Where did Agriculture Begin? Oh Boy, It's Complicated" NPR July 15, 2016     Video:     History of Food 1/5: The Invention of Cooking     <a href="https://youtu.be/YUk8LrLEiyk">https://youtu.be/YUk8LrLEiyk</a> and 2/5: The Agricultural Revolution     <a href="https://youtu.be/cASDYP2dm10">https://youtu.be/cASDYP2dm10</a></li> </ul>
Week 4 (January 30 Class Library or Field activity session and February 1)	<ul> <li>Topic: What radical changes in the food system were associated with the Neolithic revolution?</li> <li>Planetary Boundary: Loss of Biodiversity</li> <li>Summary: As humans began the transition from obtaining their food from hunting and gathering to farming not only did they have to create agricultural innovations to encourage higher food production, but they had to change their lifestyles and build different types of community structures. Archaeologists, archaeobotantists and molecular biologists utilize different scientific approaches and methods to piece together evidence that supports the types of radical changes that occurred as humans embarked on this major life-style shift.</li> </ul>

Week	Topics, Homework, and Assignments		
	• Required Readings/Works: Standage, T. 2009. An edible history of humanity. Pages 31-59		
	Bellard, C., Marino, C. & Courchamp, F. Ranking threats to biodiversity and why it doesn't matter. <i>Nat Commun</i> <b>13</b> , 2616 (2022). <a href="https://doi.org/10.1038/s41467-022-30339-y">https://doi.org/10.1038/s41467-022-30339-y</a>		
	The five biggest threats to our natural world and how we can stop them   Biodiversity   The Guardian		
	Optional reading:     Introduction - Safety of Genetically Engineered Foods - NCBI Bookshelf (nih.gov)		
	<ul> <li>Assignments:</li> <li>Due February 1: In class activity 1</li> <li>Due February 15th</li> </ul>		
	Reflection Paper 2: Are genetically engineered plants a necessary component of our food system?		
Week 5 (February 6	<ul> <li>Topic: Did the Columbian Exchange create the first global food system?</li> <li>Summary: Our hunger for global food, flavor and fibers necessitated elaborate trade policies, territorial claims, reliable transportation and labor.</li> <li>Planetary Boundary: Land use change</li> <li>Required Readings/Works:         <ul> <li>Standage, T. 2009. An edible history of humanity. Pages 63-104.</li> </ul> </li> </ul>		
Class Library or Field Activity Session and 8)	Rockström, J., Williams, J., Daily, G.; Noble, A., Matthews, N., Gordon, L., Wetterstrand, H., DeClerck, F., Shah, M., Steduto, P., de Fraiture, C., Hatibu, N., Unver,O., Bird, J., Sibanda, L., and Smith, J. 2017. Sustainable intensification of agriculture for human prosperity and global sustainability. Ambio, Vol. 46, No. 1, pp 4-17. <a href="https://www.jstor.org/stable/45147911">https://www.jstor.org/stable/45147911</a>		
	• Assignment: Due February 8: In class activity 2		
Week 6 (February 13&15)	<ul> <li>Topic: How did the Industrial Revolution fuel innovations through mechanization that radically changed the structure and function of farms and food systems?</li> <li>Summary: The Industrial Revolution started in the 18th-century and transformed rural societies to industrial, urban hubs as technological innovations mainly centered around mechanization drastically changed the way human labor was used to produce goods and services. Higher agriculture production due to new innovations led to an increase in population and migration to cities where new industries provided employment and new opportunities.</li> <li>Planetary Boundary: Atmospheric aerosol loading</li> <li>Required Readings/Works:</li> </ul>		

Week	Topics, Homework, and Assignments
	Standage, T. 2009. <i>An edible history of humanity</i> . Pages 107-142.  Knowledge Project: Aerosols and their Relation to Global Climate and Climate Sensitivity <a href="https://www.nature.com/scitable/knowledge/library/aerosols-and-their-relation-to-global-climate-102215345/">https://www.nature.com/scitable/knowledge/library/aerosols-and-their-relation-to-global-climate-102215345/</a>
Week 7 (February 20&22)	<ul> <li>Topic: Did the Green Revolution transform farming and help feed the world?</li> <li>Summary: Using genetics and plant breeding, Norman Borlaug altered traits in wheat to create new varieties with enhanced disease resistance, improved plant stature and responsive to fertilizer to increase production to help address food insecurity. His novel crop varieties along with a package of accompany technologies changed food systems globally. Students will be able to explain the scientific methods used to develop the novel "miracle seeds" and the other technologies introduced by Borlaug and how N and P fertilizers are part of biogeochemical cycles.</li> <li>Planetary Boundary: Nitrogen and phosphorus flows to the biosphere and oceans</li> <li>Required Readings/Works:         <ul> <li>Standage, T. 2009. An edible history of humanity. Pages 145-196.</li> </ul> </li> <li>Nitrogen: The environmental crisis you haven't heard of yet (mongabay.com)</li> <li>Video: Norman Borlaug: A Lifetime Fighting Hunger https://youtu.be/m2TmEdiXTvc</li> </ul> <li>Optional Reading:         <ul> <li>Prabhu, Pingali. 2012. Green Revolution: Impacts, limits and the path ahead. PNAS, Vol. 109, No.31 https://doi.org/10.1073/pnas.0912953109</li> </ul> </li> <li>Assessment 1 (55 minutes) in class on February 20</li>
Week 8 (February27 &29)	<ul> <li>Topic: What are the consequences of Green Revolution innovations?</li> <li>Summary: Many innovations designed to address broad challenges have unintended consequences. Students will analyze the positive and negative consequences of the broad adoption of Green Revolution technologies focusing on agriculture productivity, social and ecological impacts.</li> <li>Required Readings/Works:         <ul> <li>Standage, T. 2009. An edible history of humanity. Pages 199-220.</li> </ul> </li> </ul>

Week	Topics, Homework, and Assignments
	John Daisy A., Babu Giridhara R. 2021. Lessons From the Aftermaths of Green Revolution on Food System and Health. Frontiers in Sustainable Food Systems. VOL 5. https://www.frontiersin.org/articles/10.3389/fsufs.2021.644559 DOI=10.3389/fsufs.2021.644559. ISSN=2571-581X
	• Assignment: Due March 21 Reflection Paper 3: Which Green Revolution innovation had the biggest positive and negative impact in the food system?
	Topic: What are the consequences of Green Revolution innovations on water use?
W1-0	Planetary Boundary: Freshwater consumption and the global hydrological cycle
Week 9 (March 5&7)	• Required Readings/Works:  Hatfield, J. 2015. Environmental Impact of Water Use in Agriculture. Agronomy Journal. Vol. 107. <a href="https://doi.org/10.2134/agronj14.0064">https://doi.org/10.2134/agronj14.0064</a> .
	• Assignment: Due March 7: In class activity 3
Week 10	<ul> <li>Topic: How has the Blue Revolution contributed to the food system and sustainable fisheries?</li> <li>Summary: The rapid development of innovations in aquaculture production world-wide provides an important source of protein, increases in fish and other aquatic species consumption while lessening the pressure of the fishing industries in marine ecosystems. Students will discover the diversity of aquaculture production systems and analyze their positive and negative impacts to the food system and beyond.</li> <li>Planetary Boundary: Ocean acidification and eutrophication</li> </ul>
(March 19&21)	Required Readings/Works:  Standage, T. 2009. An edible history of humanity. Pages 221-237.
	Listen to the podcast that interviews the author, Nicholas Sullivan about his book "The Blue Revolution" <a href="https://www.science.org/doi/10.1126/science.ade2202">https://www.science.org/doi/10.1126/science.ade2202</a>
	National Geographic Magazine article "How to Farm a Better Fish" <a href="https://www.nationalgeographic.com/foodfeatures/aquaculture/">https://www.nationalgeographic.com/foodfeatures/aquaculture/</a>
Week 11 (March 26&28)	<ul> <li>Topic: What is the potential for the Information Revolution to transform food systems?</li> <li>Summary: Information and communication technologies (ICTs) are revolutionizing food systems. Applications across the food system have</li> </ul>

Week	Topics, Homework, and Assignments
	drastically changed the way farmers manage, store, and market their crops.  Similarly, food processing, safety and distribution have transformed how and what people eat. Students will learn how ICTs and Artificial Intelligence (AI) innovations such as robotics and automation, geospatial analytics, carbon credits, genetic improvement, and pest and weed management are transforming agriculture and accelerating adaptation and mitigation strategies to climate change.  • Planetary Boundary: Climate change
	Required Readings/Works:
	Standage, T. 2009. An edible history of humanity. Pages 238-244.
	Birner, R, Daum, T, Pray, C. Who drives the digital revolution in agriculture? A review of supply-side trends, players and challenges. <i>Appl Econ Perspect Policy</i> . 2021; 43: 1260–1285. <a href="https://doi.org/10.1002/aepp.13145">https://doi.org/10.1002/aepp.13145</a>
	Review information on website : Climate Change Science   US EPA
	<i>Optional Reading:</i> Chiles, R.M., Broad, G., Gagnon, M. <i>et al.</i> Democratizing ownership and participation in the 4th Industrial Revolution: challenges and opportunities in cellular agriculture. <i>Agric Hum Values</i> <b>38</b> , 943–961 (2021). <a href="https://doi.org/10.1007/s10460-021-10237-7">https://doi.org/10.1007/s10460-021-10237-7</a>
	• Assignment: Due April 16 Reflection Paper 4: What is most concerning about climate change and the food system?
Week 12 (April 2&4)	<ul> <li>Field trips. Each trip will cover an aspect of the food system covered during the semester. There will be different field trips to choose from. One will be offered during the class period on Tuesday. Others will be offered at other times, but you must attend at least one trip. Days and times required for each field trip will vary during the semester to accommodate your interest and schedules. You will be able to earn extra credit (25 points) by submitting a short reflection essay (a prompt will be provided) after attending a second field trip. Only one extra credit reflection essay may be submitted. During class on April 4, we will wrap up the course topics and answer any questions related to the second exam. </li> <li>Assignments:</li> </ul>
	Due April 2: Optional Group Paper Draft Due April 4: In class activity 4

Week	Topics, Homework, and Assignments
Week 13 (April 9 & 11)	<ul> <li>Assessment 2 (55 minutes) In class on April 9</li> <li>What will the food system of the future look like?</li> <li>Student led session on April 11</li> </ul>
Week 14 (April 16&18)	<ul> <li>What will the food system of the future look like?</li> <li>Student led sessions.</li> </ul>
Week 15 (April 23)	<ul> <li>What will the food system of the future look like?</li> <li>Student led sessions.</li> <li>Assignment:         <ul> <li>Due April 23: Final Group Paper</li> </ul> </li> </ul>

# IV. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the <u>Quest</u> 2 and <u>General Education</u> (I) learning outcomes as follows:

**Content:** Students are able to explain the contributions and consequences of the major innovations that have revolutionized global food systems during major points in history. (Assessed in exams and reflection papers)

**Critical thinking:** Students are able to analyze food systems data from multiple perspectives and evaluate the practices and policies implemented to address global food security. (Assessed in exams and reflection essays)

**Communication:** Students are able to communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to global food systems and food security. (Assessed in class participation, reflection essays and the group project.

**Collaboration:** Students are able to work collaboratively with others and be an effective team member. (Assessed in the group project)

**Connection**: Students are able to assess the relevance of global food systems and food security to their personal and professional development and the greater society. (Assessed in reflection essays)

## V. Quest Learning Experiences

## 1. Details of Experiential Learning Component

Students will have the opportunity to engage in experiential learning through participating in a required, in-person or virtual field experience. Each experience will explore an aspect of the food system and students will engage in observational learning, a hands-on activity, discussion and reflection exercise. The location, date and description of each activity will be provided to the students at the beginning of the semester. Students are required to sign up for the trip(s) they plan

to attend. In some cases, space will be limited, and students are encouraged to sign up early so that they are able to attend these activities (students are selected on a first come, first serve basis). Students will not be able to attend space-limited activities if they have already participated in a prior activity. Activity opportunities will be on-campus, in the city of Gainesville, in Alachua County and in surrounding counties. Students will arrange their own transportation to activities.

#### 2. Details of Self-Reflection Component

Self-reflection activities will be part of each weekly lesson. For example, class participation (graded) will include activities that require you to work individually or in teams to incorporate the weekly readings, class lectures and activities into new ways of thinking about a particular course topic. Reflection essays (graded) are based on a prompt related to the course content and experiences and help develop your analytical skills. They provide an opportunity for you to explore what you learned about a topic and express what, how and why you think in a particular way. You will use your personal experiences, observations and content knowledge to consider new ideas and shape (or re-shape) your way of thinking.

# VI. 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 <a href="https://disability.ufl.edu/students/get-started/">https://disability.ufl.edu/students/get-started/</a>. 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 <a href="https://gatorevals.aa.ufl.edu/students/">https://gatorevals.aa.ufl.edu/students/</a>. 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 <a href="https://gatorevals.aa.ufl.edu/public-results/">https://gatorevals.aa.ufl.edu/public-results/</a>. Summaries of course evaluation results are available to students at <a href="https://gatorevals.aa.ufl.edu/public-results/">https://gatorevals.aa.ufl.edu/public-results/</a>.

## **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

(<a href="https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/">https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/</a>) 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: <a href="http://www.counseling.ufl.edu/">http://www.counseling.ufl.edu/</a>, 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 <a href="http://writing.ufl.edu/writing-studio/">http://writing.ufl.edu/writing-studio/</a> or in 2215 Turlington Hall for one-on-one consultations and workshops.

## **In-Class Recordings**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.