PLS 2030: The Evolution of Eating
Quest 2

I. General Information

Class Meetings

- Spring 2026
- 100% in-person

- Section 26211
- Tuesday, Periods 4-5 (10:40 AM-12:35 PM) in LEI 0142
  Thursday, Period 4 (10:40 AM-11:30 AM) in FLG 0265

  Section 26212
- Tuesday, Periods 7-8 (1:55-3:50 PM) in MAT 0011
  Thursday, Period 7 (1:55-2:45 PM) in LEI 0142

Instructor

- Rosalie Koenig, PhD
- 2091 McCarty Hall B
- Office Hours Thursdays 9 – 10 AM or schedule by request and alternative time and day
- rlkoenig@ufl.edu; 352-273-3495 (Office)

Course TA

- Jeftey Saint Fleur
- jsaintfleur@ufl.edu
- Office Hours: By appointment

Course Description

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.

Course Context

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.

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 Quest and General Education 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 (two individual and two 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 25 points and due the following week. See the due date on the syllabus and in Canvas.

Quizzes: There will be six quizzes during the semester. There are no make-quizzes. The lowest quiz grade will be dropped. The quizzes are worth 40 points each and will include two short essay questions.

You will be given five to six questions ahead of time as your study guide for the quiz and two of them will be the questions on the quiz. Partial credit will be given.

Brief reflection essays: Through the semester students will write 3 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. Groups will use specific data and informational resources available on-line to collect background information on the country for two of the in-class group assignments. Using this background information, students will need to do a literature review on a specific region and food system challenge in the country. Students should use the assignment instructions to guide their research. The final draft of the paper is due midnight on December 3 (worth 50 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 50 points. See the Canvas site for more details about these assignments.

Group Chapter Discussion: As part of our course, each student group will be responsible for facilitating a class discussion on a section of *An Edible History of Humanity* by Tom Standage. The group's role is to guide the conversation, ensuring that the class engages deeply with the material. Please follow the guidelines below to prepare and lead your discussion effectively. Each week, one student group will lead the class in a discussion of the assigned chapter. Your goal is to encourage critical thinking and foster an engaging dialogue. The discussion should be limited to 20-25 minutes. Keep the conversation focused and ensure that all key points are covered within this timeframe. Details and guidance for the assignment are found on the Canvas site under the assignment tab associated with the book chapter discussion. The discussion is worth 50 points.

Late Assignments:

Students can submit assignments up to two days after the due date. Students will lose 10% of the points for an assignment handed in one day late and 20% of the points for an assignment handed in two days late. No assignments may be submitted past two days after the due date.

Grading Scale

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

A	94 – 100%		C	74 – 76.9%
A-	90 – 93.9%		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

Grading Rubric(s)

Assessment Rubric for Group Country Assignment

	Excellent (12.5 points)	Good (10.63 points)	Acceptable (9.25 points)	Insufficient (7.5 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 MLA 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 MLA 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. MLA citation style is either inconsistent or incorrect.	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: https://www.cornellcollege.edu/library/faculty/focusing-on-assignments/tools-for-assessment/research-paper-rubric.shtml)

Assessment Rubric for Reflection Writing Assignments

	Excellent (15 points)	Good (12.5 points)	Acceptable (10 points)	Insufficient (8 points)

Reflection	Demonstrates a comprehensive and thoughtful reflection. Clearly connects personal experiences, growth, or change to course concepts and the subject matter. Includes specific examples and insights into how learning has shaped understanding or perspectives.	Demonstrates a solid reflection with some connection between personal experiences and course concepts. Provides examples, though they may lack depth or clarity. Some insights into personal growth or change are evident.	Reflection is basic and lacks depth. Limited connection between personal experiences and course concepts. Provides few examples and minimal insight into personal growth or change.	Reflection is superficial or absent. Fails to connect personal experiences to course concepts. No examples or insights into personal growth or change are provided.
	Excellent (10 points)	**Good (9 points)**	**Acceptable (7.5 points)**	**Insufficient (5 points)**
Comprehension and integration of key course concepts	The paper demonstrates that the author fully comprehends and integrates concepts learned in the course. Concepts are integrated into the writer's own insights (does not use direct quotes).	The paper demonstrates that the author(s), for the most part, comprehends and integrates concepts learned in the course. Concepts are integrated into the writer's own insights (avoids direct quotes).	The paper demonstrates that the author(s), to some extent, comprehends and integrates concepts learned in the course. Writer uses direct quotes instead of integrating into their own insights.	The paper does not demonstrate that the author(s) fully understands or is able to integrate concepts learned in the course. Writer uses excessive direct quotes instead of integrating into their own insights.
Cohesiveness and Synthesis of ideas	Information and ideas are strongly connected with logical flow. Clearly demonstrates analysis, evaluation, and connection of sources.	Information and ideas are mostly connected with good flow. Demonstrates some analysis, evaluation, and connection of sources.	Sometimes connects information and ideas. Flow may be disjointed, and analysis or evaluation is minimal.	Fails to connect information and ideas meaningfully. Lacks logical flow, analysis, or evaluation.
	Excellent (5 points)	**Acceptable (2.5 points)**		**Insufficient (0 points)**
Grammar	Minimal to no spelling and/or grammar mistakes.	Several spelling and/or grammar mistakes.		Excessive number of spelling and/or grammar mistakes.
Citations	Includes in-text citations and references from at least 2 sources. Consistent use of MLA style.	Includes in-text citations and references from less than 2 sources. Consistent use of MLA style.. Citation style is either inconsistent or incorrect.		Does not cite sources.
	Excellent (5 points)		**Insufficient (2 points)**	
Word Count	Reflection is no longer than 1000 words.		Reflection exceeds 1000 words.	

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

Assessment Rubric for Group Presentations

	Excellent (12.5 points)	Good (10.36 points)	Acceptable (8.75 points)	Insufficient (7.14 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, appropriate and enhanced learning.	Adequate volume, pace, enthusiasm, eye contact and gestures that engaged the audience. Visual aids and props were appropriate and promoted learning.	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.
Discussion and Responses	High level of engagement and creative organization and style led to robust	Good level of engagement and creative organization and	Acceptable level of engagement and a fair level of organization and	Poor level of engagement and lack of organization and well-thought out style led to little or no discussion. Presenters did

	discussion. Presenters did an excellent job of addressing questions from the audience.	style led to good discussion. Presenters did a good job of addressing questions from the audience.	style led to adequate discussion. Presenters did a fair job of addressing questions from the audience.	inadequate job of addressing questions from the audience.

III. Annotated Weekly Schedule

Week	Topics, Homework, and Assignments
Week 1 (January 13 &15)	• Course Introduction • **Topic:** What are the consequences of different food systems? • **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. • **Required Readings/Works**: Marshall Q, Fanzo J, Barrett CB, Jones AD, Herforth A and McLaren R (2021) Building a Global Food Systems Typology: A New Tool for Reducing Complexity in Food Systems Analysis. Front. Sustain. Food Syst. 5:746512. https://doi.org/10.3389/fsufs.2021.746512 von Braun, J., Afsana, K., Fresco, L.O. *et al.* Food system concepts and definitions for science and political action. *Nat Food* **2**, 748–750 (2021). https://doi.org/10.1038/s43016-021-00361-2
Week 2 (January 20 & 22)	• **Topic:** What are critical planetary boundaries and the role of the food system? • **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. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 1

Week	Topics, Homework, and Assignments
	United Nations Department of Economic and Social Affairs. February, 2022. Why population growth matters for sustainable development. Policy Brief No. 130. Ted talk: Let the environment guide our development. Johan Rockstrom. 19 min. https://www.youtube.com/watch?v=RgqtrlixYR4&t=2s • ***Optional Reading :*** Katherine Richardson *et al.*, Earth beyond six of nine planetary boundaries. *Sci. Adv.***9**,eadh2458(2023).DOI:10.1126/sciadv.adh2458 **Assignments:** 1. Book Chapter 1 discussion 2. Quiz 1
Week 3 (January 27&29) *** Bread of the Mighty Field trip on Tuesday, January, 27	• **Topic:** Were proto-farmers the first citizen scientists? • **Summary:** The practice of farming was started by humans who took advantage of the genetic diversity found in nature. Students will hypothesize how proto-farmers 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 over time. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 2 Rhitu Chatterjee "Where did Agriculture Begin? Oh Boy, It's Complicated" NPR July 15, 2016 https://www.npr.org/sections/thesalt/2016/07/15/485722228/where-did-agriculture-begin-oh-boy-its-complicated Video: History of Food 1/5: The Invention of Cooking and 2/5: The Agricultural Revolution https://youtu.be/cASDYP2dm10 **Assignments:** 1. Book Chapter 2 discussion 2. Quiz 1 3. Class assignment 1: Group assignment on country demographics, food system and other key information due midnight, January 29

Week	Topics, Homework, and Assignments
Week 4 (February 3&5)	• **Topic:** What radical changes in the food system were associated with the Neolithic revolution? • **Planetary Boundary:** *Loss of Biodiversity* • **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. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 3 Bellard, C., Marino, C. & Courchamp, F. Ranking threats to biodiversity and why it doesn't matter. *Nat Commun* **13**, 2616 (2022). https://doi.org/10.1038/s41467-022-30339-y The five biggest threats to our natural world … and how we can stop them | Biodiversity | The Guardian **Assignments:** 1. Book Chapter 3 discussion
Week 5 (February 10&12)	• **Topic:** Did the Columbian Exchange create the first global food system? • **Summary:** Our hunger for global food, flavor and fibers necessitated elaborate trade policies, territorial claims, reliable transportation and labor. Students will be able to relate major changes in global social and political structures to the global expansion of food crops. • **Planetary Boundary:** *Land use change* • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 4 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. https://www.jstor.org/stable/45147911 Watch this video: Journey 2050: Land Use https://youtu.be/RMu7NtScdhU ***Optional Reading:***

Week	Topics, Homework, and Assignments
	Jules Pretty, Zareen Pervez Bharucha, Sustainable intensification in agricultural systems, *Annals of Botany*, Volume 114, Issue 8, December 2014, Pages 1571–1596, https://doi.org/10.1093/aob/mcu205 **Assignments:** 1. Book Chapter 4 discussion 2. Quiz 2
Week 6&7 (February 17&19 and 24&26)	• **Topic:** How did the Industrial Revolution fuel innovations through mechanization that radically changed the structure and function of farms and food systems? • **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. • **Planetary Boundaries:** *Climate change and Atmospheric aerosol loading* • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapters 5-7 Review information on website : Climate Change Science | US EPA Knowledge Project: Aerosols and their Relation to Global Climate and Climate Sensitivity https://www.nature.com/scitable/knowledge/library/aerosols-and-their-relation-to-global-climate-102215345/ **Assignments:** • In class activity 2: Group Food System Part 2 • Book Chapters- 5 discussion • Quiz 3 (Feb 26)
Week 8 (March 3&5)	• **Topic:** Did the Green Revolution transform farming and help feed the world? • **Summary:** Using genetics and plant breeding, Norman Borlaug altered traits in wheat to create new varieties with enhanced disease resistance, improved plant stature and response to fertilizer to increase production to help address food insecurity. His novel crop varieties along with a package of accompanying technologies changed food systems globally. Students will be able to explain the scientific methods used to develop

Week	Topics, Homework, and Assignments
	the novel "miracle seeds" and the other technologies introduced by Borlaug and how N and P fertilizers are part of biogeochemical cycles. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 6 • **Planetary Boundary:** *Nitrogen and Phosphorus Biogeochemical Flows* Nitrogen: The environmental crisis you haven't heard of yet (mongabay.com) https://edis.ifas.ufl.edu/publication/SS684 Video: Norman Borlaug: A Lifetime Fighting Hunger https://youtu.be/m2TmEdiXTvc ***Optional Reading:*** Prabhu, Pingali**.** 2012. Green Revolution: Impacts, limits and the path ahead. PNAS, Vol. 109, No.31 https://doi.org/10.1073/pnas.0912953109 **Assignments:** 1. Book Chapter 6 discussion 2. Reflection Paper 1
Week 9 (March 10&12) ***Visit to Dr. Rios Plant Breeding program	• **Topic:** What are the consequences of Green Revolution innovations? • **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 agricultural productivity, social and ecological impacts. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 7 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 • **Assignments:** 1. Book Chapter 7 discussion 2. Quiz 4 3. In-class activity 3: Plant Improvememt
Week 10	**Spring Break**

Week	Topics, Homework, and Assignments
Week 11 (March 24&26) Field Trip to campus water treatment facility	• **Topic:** What are the consequences of Green Revolution innovations on water use? • **Summary:** Agriculture and the food system are major consumers of fresh water. Students will learn about the water cycle and role that agriculture plays in the cycle. Additionally, students will gain an appreciation of the ways that farmers use water in their production systems including different aspects of irrigation systems. • **Planetary Boundary:** *Freshwater consumption and the global hydrological cycle* • **Required Readings/Works:** Standage, T. 2009. *An edible history of humanity*. Chapter 8 Hatfield, J. 2015. Environmental Impact of Water Use in Agriculture. Agronomy Journal. Vol. 107. https://doi.org/10.2134/agronj14.0064. • **Assignments:** 1. Book Chapter 8 discussion 2. In class activity 4- Water
Week 12 (March 31 &April 2)	• **Topic:** How has the Blue Revolution contributed to the food system and sustainable fisheries? • **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. • **Planetary Boundary:** Ocean acidification and eutrophication • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 9 Listen to the podcast that interviews the author, Nicholas Sullivan about his book "The Blue Revolution" https://www.science.org/doi/10.1126/science.ade2202 National Geographic Magazine article "How to Farm a Better Fish" https://www.nationalgeographic.com/foodfeatures/aquaculture/ • **Assignments:** 1. Book Chapter 9 discussion 2. Quiz 5 •
Week 13 (April 7&9)	• **Topic:** What is the potential for the Information Revolution to transform food systems?

Week	Topics, Homework, and Assignments
PLEASE NOTE ON APRIL 9 WE WILL BEGIN THE COUNTRY PRESENTATIONS	• **Summary:** Information and communication technologies (ICTs) are revolutionizing food systems. Applications across the food system have 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. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 10 Birner, R, Daum, T, Pray, C. Who drives the digital revolution in agriculture? A review of supply-side trends, players and challenges. *Appl Econ Perspect Policy*. 2021; 43: 1260– 1285. https://doi.org/10.1002/aepp.13145 ***Optional Reading:*** Herrero, M., Thornton, P.K., Mason-D'Croz, D. *et al.* Innovation can accelerate the transition towards a sustainable food system. *Nat Food* **1**, 266–272 (2020). https://doi.org/10.1038/s43016-020-0074-1 **Assignments:** 1. Book Chapter 10 Discussion 2. Reflection Paper 2
Week 14 (April 14&16)	• **Class Country Presentations and Discussions** **Assignments** 1. Book Chapter 11 2. Quiz 6
Week 15 (April 21)	• **Class Country Presentations and Discussions** **Assignments** 1. Reflection Paper 3

IV. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the Quest 2 and General Education (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 required, in-person or virtual field experiences. Each experience will explore an aspect of the food system and students may engage in observational learning, a hands-on activity, discussion and reflection exercises. The location, date and description of each activity will be provided to the students at the beginning of the semester. 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. Attendance is taken for these activities by the instructor. Students will receive quiz questions associated with concepts learned during these activities.

2. Details of Self-Reflection Component

Self-reflection activities will be part of each weekly lesson. For example, class participation 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 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. 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/ , 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.

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.

Appropriate Use of Artificial Intelligence in the Course

Artificial Intelligence (AI) tools, such as generative AI, large language models, content generation bots, or other non-human intelligence or digital tools, can be valuable resources in research, writing, and learning. In this course, students are encouraged to use AI responsibly and ethically to enhance their understanding and productivity. However, all use of AI must adhere to the following principles to uphold academic integrity and comply with the University of Florida Student Honor Code and Student Conduct Code (Regulation 4.040):

1. **Prohibited Uses:** A student shall not use or attempt to use unauthorized materials or resources in any academic activity for academic advantage or benefit. Cheating includes, but is not limited to, using any materials or resources prepared by another person or Entity without the other person or Entity's express Consent or without proper attribution to the other person or Entity. This prohibition applies to the use of generative AI tools and any other digital resources.
2. **Transparency:** If you use AI to assist with your coursework (e.g., generating ideas, creating outlines, or drafting text), you must disclose this use in your submission. Clearly specify how AI was used and what tasks it performed.
3. **Attribution:** Properly attribute any content generated or significantly informed by AI tools. Failing to do so is considered academic misconduct.
4. **Personal Effort and Originality:** All submitted work must primarily reflect your own critical thinking, understanding, and effort. Overreliance on AI or submitting AI-

generated work without meaningful contribution or analysis will be treated as a violation of academic integrity.

5. **Assessment Restrictions:** The use of AI tools is strictly prohibited in assessments such as quizzes, exams, or any activities designed to evaluate individual knowledge or skills. Any unauthorized use in these contexts will be considered cheating.

Students are reminded that violations of these guidelines, including improper or unauthorized use of AI, will be handled in accordance with the University of Florida Student Honor Code and Student Conduct Code (Regulation 4.040). If you are uncertain about whether your use of AI is permissible, consult the instructor or course TA prior to submission.