IDS 2935: The Evolution of Eating
Quest 2

I. General Information

Class Meetings

- Fall 2024
- 100% in-person
- Section 2BK1
- Tuesday 4-5 (10:40 AM-12:35 PM) in HPNP G112
  & Thursday 4 (10:40 AM-11:30 AM) in MAT 0018
- Section 2BK2
- Tuesday 6-7 (12:50-2:45 PM) in MCCB G108 &
  Thursday 6 (12:50 PM -1:40 PM)

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

- 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 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 (one individual and three 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 ten quizzes during the semester. There are no make-quizzes. The two, lowest quiz grades will be dropped. If you have an absence (excused) during a quiz, this will count as the dropped assessment for the semester. The quizzes are worth 25 points each and will include one short essay question. You will be given three to four questions ahead of time as your study guide for the quiz and one of them will be the question 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 chapters. 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.

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 – 90.9%		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 points)	Acceptable (9 points)	Insufficient (6 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 (avoids direct quotes). 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 (avoids direct quotes). 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. Writer uses direct quotes instead of integrating into their own insights. 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. Writer uses excessive direct quotes instead of integrating into their own insights. No evidence of integration of insights or demonstration of analysis or synthesis of ideas.

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.	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.	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.	Does not tie together information in a meaningful way. Paper does not flow. No demonstration of how information is connected.
	Excellent (5 points)	Acceptable (2.5 points)	Insufficient (1.25 points)	
Grammar	Minimal to no spelling and/or grammar mistakes.	Several spelling and/or grammar mistakes.		Excessive number of spelling and/or grammar mistakes.
	Excellent (5 points)	Acceptable (2.5 points)		Insufficient (0 points)
Citations	Proper use of MLA citation style (includes in-text citations and references).	Citation style is either inconsistent or incorrect.		Does not cite sources.
	Excellent (10 points)	Acceptable (7 points)		Insufficient (0 points)
Reflection	Strong reflection that includes how you have changed, developed, or grown from your experience or interaction with the subject matter, ideas, or topic.	Some evidence of a reflection that demonstrates how you have changed, developed, or grown from your experience or interaction with the subject matter, ideas, or topic.		No reflection in concluding paragraph.

(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 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
(August 22)	**Class Introduction and Food System exercise**
Week 1 (August 27 and 29)	• **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 (September 3 and 5)	• **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**: • 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
Week 3	• **Topic:** Were proto-farmers the first citizen scientists? • **Planetary boundary:** *Loss of biodiversity*

Week	Topics, Homework, and Assignments
(September 10 and 12) **Please note a class field trip is scheduled for the Tuesday, September 10th class session	• **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 overtime. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 1 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 1 discussion 2. Quiz 1 3. Class assignment 1: Group assignment on country demographics, food system and other key information due midnight, September 12
Week 4 (September 17 and 19)	• **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 2 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

Week	Topics, Homework, and Assignments
	Assignments: 1. Book Chapter 2 discussion 2. Quiz 2
Week 5 (September 24 and 26) **Please note a class field trip is scheduled for the Tuesday, September 24 and we will meet at the Field and Fork Garden on Campus	• **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 3 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:*** 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 3 2. Quiz 3 3. In class activity 2: Biodiversity and Land Use on Campus
Week 6 (October 1 and 3)	• **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 Boundary:** *Atmospheric aerosol loading* • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 4 Knowledge Project: Aerosols and their Relation to Global Climate and Climate Sensitivity

Week	Topics, Homework, and Assignments
	https://www.nature.com/scitable/knowledge/library/aerosols-and-their-relation-to-global-climate-102215345/ **Assignments:** 1. In class activity 3: Group Land Use Field Activity 2. Book Chapter 4 discussion 3. Quiz 4
Week 7 (October 8 and 10)	• **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 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. • **Planetary Boundary:** *Nitrogen and phosphorus flows to the biosphere and oceans* • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 5 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 5 discussion 2. Quiz 5 3. In class individual activity 4: Aerosol activity
Week 8 (October 15 and 17)	• **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 agriculture productivity, social and ecological impacts. • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 6

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 • **Assignments:** 1. Book Chapter 6 Discussion 2. Quiz 6 3. Reflection Paper 1
Week 9 (October 22 and 24)	• **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 7 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 7 Discussion 2. Quiz 7
Week 10 (October 29 and 31)	• **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 8 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/

Week	Topics, Homework, and Assignments
	• **Assignments:** 1. Book Chapter 8 Discussion 2. Quiz 8
Week 11 (November 5 and 7)	• **Topic:** What is the potential for the Information Revolution to transform food systems? • **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. • **Planetary Boundary:** Climate change • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 9 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 Review information on website : Climate Change Science | US EPA ***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 9 Discussion 2. Quiz 9
Week 12 (November 12 and 14)	• **Class Country Presentations and Discussions** • **Required Readings/Works**: Standage, T. 2009. *An edible history of humanity*. Chapter 10 **Assignments** • Book Chapter 10 Discussion • Quiz 10 • Reflection Paper 2

Week	Topics, Homework, and Assignments
Week 13 (November 19 and 21)	• **Class Country Presentations and Discussions** **Assignments**
Week 14 (November 26 and 28)	• **No UF Classes Thanksgiving break**
Week 15 (December 3)	• **Class Country Presentations and Discussions** **Assignments:** 1. Due December 3: Final Group Paper 2. 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 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 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/ , 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.