

ANAR 146
FEEDING THE WORLD

Lectures watched asynchronously

Office hours: Thursday 11:00 am-12:00 pm time PST
or by appointment to set up via email



Instructor: Jade d'Alpoim Guedes jguedes@ucsd.edu
Teaching Fellow: Fabian Toro-Uribe ftorouri@ucsd.edu

Purpose of the Course:

Climate change, population growth, ecological degradation and changing sociopolitical contexts mean that securing the world's food supply is one of the greatest challenges of our times, or so we have been told. What have humans eaten and what and how should we eat and farm to guide a sustainable future? In the first unit of the course you will learn how human's relationship with food has changed over the course of their evolution and how humans first started cultivating the foods we rely on today. The second half of the course compares these early developments to the modern food crisis using key examples from Asia. We examine traditional ecological knowledge in farming systems around the world asking the question: what makes these systems adapted and sustainable to their local environment? Our third unit will focus on the goals of the Green Revolution and collectivized systems of agriculture. We will look at these farming system's successes and failures throughout the world. Finally, in our fourth unit, we turn our attention to the last 20 years, when humans began to modify plant life at the genetic level. You will learn what a GMO is (and what it is not!) and about the potential benefits and shortcomings of biotechnology.

COURSE POLICIES

Course Outcomes

1. Explore relationships between population and food supply.
2. Discuss elements related to emergence of farming and animal domestication.
3. Demonstrate familiarity with traditional farming systems, models, and techniques.
4. Demonstrate familiarity with and assess the impacts of green revolution and socialist farming systems.
5. Explore various aspects of Genetically Modified crops.

Prerequisites: There are no pre-requisites for this class.

Grading Scale:

| | | |
|--------|---|----|
| 94-100 | = | A |
| 90-93 | = | A- |
| 87-89 | = | B+ |
| 84-86 | = | B |
| 80-83 | = | B- |
| 77-79 | = | C+ |
| 74-76 | = | C |
| 70-73 | = | C- |
| 67-69 | = | D+ |
| 64-66 | = | D |
| 60-63 | = | D- |
| <60 | = | F |

Remote teaching schedule: Students should watch lecture videos during the weeks assigned and complete the quizzes and reading comments by their assigned due dates.

Office Hours: I will hold optional online office hours on Thursdays from 11:00 am - 12:00 pm PST, or by appointment scheduled via email.

Reading and Required texts: There is no single required textbook for this class and readings for each week will be uploaded to the course website. Each week varies somewhat in the amount of reading we will have. Some weeks are lighter and other weeks have a heavier load of reading. Be sure to read the syllabus in advance and plan extra time on the heavy weeks to complete the reading load and upload your reading comments.

Lecture Quizzes: After you complete watching each lecture video, you will carry out a short lecture quiz.

Reading comments: You will be required to post a **200-400 word (+- 50 word)** (in the form of a journal entry) on each set of readings **by the assigned due date listed in Canvas**. These short-reading and writing assignments will be placed on and turned in on the course website. You will see them appearing in the modules section of the course. A series of questions will guide your response. In your

reading comments you will be asked to write a very brief summary of the *content* of the most important elements of the paper. Being able to boil complex arguments down to their basics is a key academic skill.

When writing, think of yourself as a professional. Once you have written your response, edit it down to make it as pithy as possible: you will be amazed how much content you can fit into a few hundred words by using clear language and by trimming down to the essential. Double check your work and make sure it does not contain grammar mistakes, misspellings or unclear phrasing.

Late Papers or Missed Exams: Writing assignments are due on the day indicated and you will have sufficient time to complete them. Papers must be received on the course website by the date and time specified or they will be considered late. Emailed papers are not accepted so make sure that you try uploading your paper before the deadline to avoid upload issues. Late papers will be accepted, but will be subject to a penalty of 10 percent per day. If you anticipate problems with any deadlines, please come talk to me about your specific circumstances to see how I can help you and adjust deadlines in advance.

Feedback times: Please make sure to give me at least 24 hours to respond to emails on weekdays. I generally don't respond to emails on the weekends and will reply once I return to the office on Monday. I will generally feedback on writing assignments and quizzes within two weeks of completion.

Accommodations for Students with Disabilities: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to Faculty (please make arrangements to contact me privately) and to the OSD Liaison at the Global Health Program in advance so that accommodations may be arranged.

Academic Integrity: Students should be familiar with the UCSD Policy on Academic Integrity (<http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>). All written coursework is to be original and individually authored by the student who turns it in. All sources must be cited and credited. If you have any questions about how it applies to this course, please ask. Any student found to have violated the university's academic integrity standards will be subject to penalties ranging from failing the assignment or course to suspension or expulsion from the university. Your responsibilities and rights under the UCSD Student Code of Conduct can be found at <http://students.ucsd.edu/student-life/organizations/student-conduct/index.html>

Syllabus is Subject to Change: This syllabus and schedule are subject to change. Notice will be given by email and/or in class if needed.

Evaluation

| | Description | Percentage of final grade |
|----------------------|--|---------------------------|
| Take home assignment | GM crops: Position paper | 27% |
| Reading comments | Post a 200-400 word (+- 50 word) (in the form of a journal entry) on each set of readings by the assigned due date listed in Canvas. | 36% |
| Lecture quizzes | Short quizzes after the lecture. 2.125 point each for 16 entries. | 32% |
| Discussions | Threaded discussion forums located in each module. | 5% |
| | | 100% |

Course Schedule

| Week & Date | Topic | Module | Readings | Lectures/Videos | Activities |
|--------------------------------|--|--|---|--|---|
| Week 1: March 28 – April 3 | Introduction to the Course | Module 1: Population and Food Supply | Malthus (1798) An Essay on the Principle of Population. Chapters 1+2: pgs. 1-12. Paul Sabin (2013) Betting on the Apocalypse. New York Times. | Lecture 1: Welcome to the Course! Video: The Population Bomb! Lecture 2: Population and Food Supply | Reading Comments 1: Malthus and Sabin Lecture 2: Quiz Module 1: Discussion |
| Week 2: April 4 – April 10 | Human Evolution and the Origins of Agriculture | Module 2: Food and the Deep Human Past | None this week. Get ready for next week! | Lecture 3: Human Evolution and the Real Paleodiet Lecture 4: When and Where Did People First Start Farming? | Lecture 3: Quiz Lecture 4: Quiz |
| Week 3: April 11 – April 17 | Why Farm? What was domestication? | Module 2: Food and the Deep Human Past | Richerson, Peter J., Robert Boyd, Robert L. Bettinger (2001) Was Agriculture Impossible during the Pleistocene but Mandatory during the Holocene? A Climate Change Hypothesis. American Antiquity 66(3): 387-411. Rindos, David (1980) Symbiosis, instability, and the origins and spread of agriculture: a new model. Current Anthropology 21(6):751-772. Fuller, Dorian Q., Chris Stevens, Leilani Lucas, Charlene Murphy and Ling Qin (2016) | Lecture 5: Why Farm? Lecture 6: What is Domestication? | Reading Comments 2: Richerson et al. (2001) Lecture 5: Quiz Reading Comments 3: Rindos and Fuller et al. Lecture 6: Quiz Module 2: Discussion |

| Week & Date | Topic | Module | Readings | Lectures/Videos | Activities |
|--------------------------------------|--|--|---|--|--|
| | | | Entanglements and entrapments on the pathway toward domestication. In The archaeology of entanglement, edited by L. Der and F. Fernandini, pp. 151-172 (Chapter 6). Routledge Walnut Creek, CA. | | |
| Week 4: April 18 – April 24 | Niche construction and traditional knowledge | Module 3: Traditional Farming and Foraging Systems Around the World | Smith, Bruce (2011) General patterns of niche construction and the management of ‘wild’ plant and animal resources by small-scale pre-industrial societies. Philosophical Transactions of the Royal Society of London B: Biological Sciences 366(1566): 836-848. Kimmerer, Robin Wall (2013) The council of Pecans In Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants. Canada: Milkweed Press: 11- 21. | Lecture 7: Niche Construction and Traditional knowledge | Reading Comments 4: Kimmerer and Smith Lecture 7: Quiz |
| Week 5: April 25 – May 1 | Non intensive farming systems | Module 3: Traditional Farming and Foraging Systems Around the World | Welch et al. (2018) Anthropogenic Fire History, Ecology, and Management in Fire-Prone Landscapes: An Intercontinental Review In Cissy Fowler (Ed.) Fire Otherwise. | Lecture 8: Non Intensive Systems Lecture 9: Intensive Systems | Lecture 8: Quiz Reading Comments 5: Welch, Boserup and Conklin Lecture 9: Quiz |

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|---------------------------|-----------------------------|---|--|--|--|
| | | | <p>Ester Boserup (1965) The Conditions of Agricultural Growth. Only Read Chapter 1: pg: 1-14, Chapter 2: pg. 15-19, Chapter 3: pg. 20-26</p> <p>Harold Conklin (2008) Ethnoecological Approach to Shifting Agriculture In Ethnoecology and the Defense of Swidden Agriculture. pg. 241-247.</p> <p>Robert M.C. Netting (1993) Smallholders, householders: Farm families and the Ecology of Intensive Sustainable Agriculture. Read Prologue Pgs. 1-27. Pgs. 41-50 and 137-140.</p> <p>Lansing, J. Stephan and Kremer, James N (2011). Rice, Fish and the Planet. PNAS 108(50): 19841-19842</p> | | <p>Reading Comments 6: Netting and Lansing</p> <p>Module 3: Discussion</p> |
| Week 6: May 2 – May 8 | The Green Revolution | Module 4: The Green Revolution and Collective Farming Systems | None. Prepare for next week. | Lecture 10: Norman Borlaug, the Green Revolution and the Origins of Industrial Agriculture | Lecture 10: Quiz |
| Week 7: May 9 – May 15 | The Modernist Dream and the | Module 4: The Green Revolution | Lansing, J. Stephen and Karyn Fox (2011) Niche | Lecture 11: Bali and the green revolution crisis | Reading Comments |

| Week & Date | Topic | Module | Readings | Lectures/Videos | Activities |
|--------------------------|----------------------------|---|--|---|---|
| | Green Revolution | and Collective Farming Systems | <p>construction on Bali: the gods of the countryside. Phil. Trans. R. Soc. B 2011 366, 927-934.</p> <p>Scott, James C. (1998) Seeing like a State. Chapter 8. "Taming Nature: an Agriculture of Legibility and Simplicity".</p> | Lecture 12: "Seeing like a State" and the modernist dream | <p>7: Lansing and Fox</p> <p>Lecture 11: Quiz</p> <p>Reading comments 8: Scott (1998)</p> <p>Lecture 12: Quiz</p> |
| Week 8: May 16 – May 22 | Collective Farming Systems | Module 4: The Green Revolution and Collective Farming Systems | <p>Harrell, Stevan (2020) The Four Horsemen of the Ecopocalypse: the Agricultural Ecology of the Great Leap Forward. Human Ecology.</p> <p>Harrell, Stevan et al. (2016) Forest is Forest and Meadows are Meadows: Cultural Landscapes and Bureaucratic Landscapes in Jiuzhaigou County, Sichuan. Archiv Orientalni 84(2016): 595-623.</p> | <p>Lecture 13: The Great Leap Forward</p> <p>Lecture 14: Collective Farming Systems and Conservation</p> | <p>Lecture 13: Quiz</p> <p>Reading comments 9: Harrell (2020)</p> <p>Reading comments 10: Harrell et al. (2006)</p> <p>Module 4: Discussion</p> |
| Week 9: May 23 – May 29 | GM Crops | Module 5: Biotechnology and New Frontiers in Farming | Stone Glenn. D. (2010) The Anthropology of Genetically Modified Crops. Annual Review of Anthropology 39(1): 381-400. | <p>Lecture 15: What's in a GMO? History and Technology of Genetically Modified Organisms</p> <p>Lecture 16: Seed Wars</p> | <p>Reading comments 11: Stone 2010</p> <p>Lecture 15: Quiz</p> <p>Lecture 16: Quiz</p> |
| Week 10: May 30 – June 3 | GM Crops (continued) | Module 5: Biotechnology and New Frontiers in Farming | Stone, Glenn. D. (2002) Both sides now: Fallacies in the Genetic Modification Wars, | Lecture 17: Where do we go from here? (Summary of all | Reading Comments 12: Golden Rice and Round-up |

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|-------------------------------|---------------------|--------|--|-------------------------|--|
| | | | <p>Implications for Developing Countries and Anthropological Perspectives. Current Anthropology 43(4): 611:630.</p> <p>Borlaug, Norman. E. (2000) Taking the GM Food Aid Debate to Africa-- Are We Going Mad April 10 Open Letter to the Editor: The Independent newspaper London, UK</p> <p><i>Optional Background Readings</i></p> <p>This Rice Could save a million kids a year</p> <p>Stone, Glenn Davis and Dominic Glover (2017) Disembedding grain: Golden Rice, the Green Revolution, and heirloom seeds in the Philippines. Agriculture and Human Values 34(1):87-102.</p> <p>Farmers Cope with Roundup-Resistant Weeds</p> | course module outcomes) | <p>Resistant weeds</p> <p>Module 5: Discussion</p> <p>Extra Credit: Internal Course Evaluation</p> |
| Finals Week: June 4 – June 10 | Work on Final Paper | None | None | None | Final Paper |