Syllabus: ENR 5600
Sustainable Agriculture and Food Systems
Fall 2016
GENERAL INFORMATION

ENR 5600

Instructor  Email  Office / Hours
Dr. Tom Henshaw  henshaw.11@osu.edu  T/TH: 11-12:30 K359

CLASS TIME

Tuesdays and Thursdays: 12:45 - 2:05
245 Kottman Hall

Course Description

More than 795 million people in the world are without enough food to eat and roughly 2 billion suffer from nutrient deficiencies. This occurs in spite of the fact that there is an excess of food in the world. This suggests that in order to understand why people go hungry - and perhaps most importantly, what can be done to most effectively intervene - that we must understand the food in a systemic way, not simply focusing on production or hunger.

This course will examine agriculture as a socio-ecological system, incorporating the social, political, economic, and environmental dimensions of agriculture, the emerging (or entrenched) global challenges related to climate change and resource depletion, and various movements within agriculture including the Green Revolution, conservation agriculture, organic, “sustainable”, and climate smart agriculture.

We will explore the concept of food security in all its dimensions including production, storage, distribution, access, and stability. We place special emphasis on challenges to the global food system, constraints to the modern “conventional” farming system, and sustainable strategies to increase global food production.

Objectives

1. Be able to define “sustainable agriculture” and “food security” from multiple perspectives
2. Differentiate types of sustainable agriculture systems - their origins, advantages, and disadvantages
3. Synthesize the complexity of sustainable agriculture and global food system succinctly in both oral and written arguments.

Expectations and Goals

1. Develop effective communication skills - Written, oral, interpersonal, and group
2. Develop focus and depth in one or more disciplines
3. Develop leadership skills - Ability to stimulate and direct collaborative learning
4. Exercise respect, tolerance, and empathy for the class and others
Course Requirements

**Required Reading**
The Coming Famine
Julian Cribb
2010, University of California Press
ISBN-10: 0520271238

**Course Requirements and Grading**

The classroom periods will primarily focus on the discussion of the required readings, with supplemental provided from lectures and guest presentations. All assignments and readings will be completed outside class in order to facilitate in class discussion. Grades will be assigned based on student performance across the semester on several different assignments, which are detailed below.

**Class Participation (20%)**

Participation will be judged based on three criteria: 1) consistent attendance and clear preparation 2) active engagement in the class discussion 3) quality of classroom participation.

**Discussion Leaders (20%)**

A pair of discussion leaders will facilitate each week's classes. Discussion leaders are expected to provide a brief oral summary of the weeks readings including a short (4-7) set of slides or visual presentation highlighting the most important points from the material. Additionally leaders will develop two or three questions intended to stimulate class discussion after the brief opening presentation.

**Midterm (20%)**

A midterm exam will be conducted to test the student's critical thinking and integration skills. The exams will consist of a number of short answer or long form essay questions designed to synthesize the concepts covered to that point in the class.

**Writing Prompts (20%) - (GS may substitute book review)**

You will be provided four writing prompts throughout the course of the semester of which you must complete three. Each will ask you to elaborate a course reading or topic. While these prompts are elaborative in nature you are asked to support your statements with specific examples and citations from the academic literature. Maximum length 1000 words.
Book Review Option:

Students are asked to identify an appropriate scholarly work (single author or edited volume) related to the Sociology of Agriculture and Food Systems. If you select this option please inform me of the book author and title by October 11th. Reviews should be between 1000 and 1500 words and are due November 22nd in class. If you select this option I can provide you with further resources on writing academic book reviews.

Final Exam (20%)

Like the mid-term the final exam will be designed to capture the student’s ability to synthesize information from across readings and lectures. The final will also consist of short answer or long form essay questions and is comprehensive in nature.

Resources and Things You Need To Know

Academic misconduct of any kind will not be tolerated.

Examples of academic misconduct include, but are not limited to, cases of plagiarism and dishonest practices in connection with examinations and laboratory exercises. See Code of Student Conduct: Rule 3335-31-02. This and other rules can be found in the Resource Guide for Students or in the back of the Student Telephone Directory. Individual effort is expected on all assignments. If you have a question about approaches and procedures that might constitute academic misconduct, see the instructor.

Statement about the availability of accommodations

If an accommodation based on the impact of a disability is needed, students should contact the instructor to arrange an appointment as soon as possible. At the appointment the course format can be discussed and any needs and potential accommodations can be anticipated. This class relies on the Office For Disability Services for assistance in verifying the need for accommodations and developing accommodation strategies. If students have not previously contacted the Office for Disability Services, they are encouraged to do so if appropriate to their needs.

Title IX – Statement

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu"
Weekly Schedule

**Week 1: Assessing our Knowledge and Assumptions**

**Tuesday August 23rd:**
Introduction and Syllabus Review
Do we know what “Sustainable Agriculture” means?

**Thursday August 25th: Making Assumptions (11)**
Wolfgang Lutz: “The end of world population growth”
Patrick Geiland: “World population stabilization unlikely this century”
Johan Rockstrom: “A safe operating space for humanity”

**Week 2: Defining Food Security and Insecurity**

**Tuesday August 30th (36)**
Julain Cribb: “The coming famine” - pgs. xi-29 - Intro / What Food Crisis / Food or... War?
Godfray: “Food Security: The challenge of feeding 9 billion people”

**Thursday September 1st (12)**
Christopher Barrett : “Measuring food insecurity”
Francesco Burchi: “From food availability to nutritional capabilities: ...”

**Week 3: Sustainable Agriculture Systems: History and Trends**

**Tuesday September 6th (21)**
JW Hansen: “Is agricultural sustainability a useful concept?”

**Thursday September 8th (9 plus long skim)**
J. Patrick Madden: “The Early Years: The LISA, SARE, and ACE Programs” Conception pg 3-8
(This is long - but captures in first person the conflict surrounding SA in the US)
Fred Kirsch---mann: “A brief history of sustainable agriculture”
Elena Bennett: “Toward a more resilient agriculture”
WRINTING PROMPT #1 DUE IN CLASS

**AGRICULTURAL PRODUCTION**

**Week 4: Transitions in Agriculture: “Food” vs. Calories**

**Tuesday September 13th: Agricultural Transitions (40)**
Julian Cribb: “The coming famine” - pgs 100-118 - Losing our Brains
Vandana Shiva: “The Violence of the Green Revolution” - 11-16
Lobao and Meyer: “The Great Agricultural Transition: Crisis, Change and Social ...”
Thursday September 15th: What is Food (15)
Emily Cassidy: “Redefining agricultural yields: from tonnes to people nourished…”
Benjamin Caballero: “Global patterns of child heath: The role of nutrition”
Kraisid Tontisirin: “Food-based strategies to meet the challenges of micronutrient…”

Week 5: Fundamentals of Production: Soil, Soil Nutrients, and Water

Tuesday September 20th: Soil - The Crucible of Terrestrial Life (12)
Daniel Hillel: “The mission of soil science in a changing world”
Pedro Sanchez: “Hunger in Africa: The link between unhealthy people and unhealthy soils”
Frederick Kirschenmann: “From Soil to Sustainability”

Thursday September 22nd: Water in the Production System (17)
Thomas Huntington: “Evidence for the intensification of the global water cycle…”
David Pimentel: “Water resources: Agriculture, environment, and society”

Week 6: Plant and Animal Systems

Tuesday September 27th: Managed Ecosystems (26)
FAO Chapter 6: “Crops and Cropping Systems”
SARE: “Diversifying Cropping Systems”

Thursday September 29th: Animal Systems (35)
Philip Thornton: “Livestock production: Recent trends, future prospects”
Carlos Sere and Henning Steinfeld: “World livestock production systems” - pgs 13-38
- understand system types and distributions
WRITING PROMPT #2 DUE IN CLASS

CHALLENGES IN AGRICULTURAL SYSTEMS

Week 7: Fertilizer and Energy Use

Tuesday October 4th: Fertilizer - Requirements and Impacts (27)
Dana Cordell: “The story of Phosphorous: Global food security and food for thoughts”

Thursday October 6th: Energy Use (23)
Julain Cribb: “The coming famine” pgs. 119-134 - Eating Oil
David Pimentel: “Food for thought: A review of the role of energy in current and evolving…”

Week 8: Land Use and Availability

Tuesday October 11th: Conversion, Degradation, and Grabs (39)
Julian Cribb: “The coming Famine” - pgs 48-68 - Peak Land
Navin Ramankutty: “People on the land: Changes in global population and croplands…”
Marc Edelman: “Global land grabs: Historical processes, theoretical and methodological…”

Thursday October 13th: Fall Break
Week 9: Bio-tech and Bio Fuels

Tuesday October 18th: GMOs - Debate? (8)
Pamela Ronald: “Plant genetics, sustainable agriculture and global food security”

Thursday October 20th: Biofuels - System Impacts (8)
David Tilman: “Beneficial biofuels - The food, energy, environment trilemma”
Barbara Esteves Ribiero: “Beyond commonplace biofuels: Social aspects of ethanol”
WRITING PROMPT #3 DUE IN CLASS

Week 10: Climate and Water

Tuesday October 25th: Climate > Ag > Climate Continuum (36)
Julain Cribb: “The Coming Famine” pgs 135-153 - The Climate Hammer
Sonja J Vermeulen: “Climate change and food systems”

Thursday October 27th: Water the Indispensable Resource (26)
Julain Cribb: “The Coming Famine” pgs 30-47 - The Well Runs Dry
Munir Hanjra: “Global water crisis and future food security in an era of climate change”

Week 11: EXAM and Food Systems Intro

Tuesday November 1st: MID-TERM EXAM

THE FOOD SYSTEM - INFLUENCE AND INTERACTIONS

Thursday November 3rd: (18)
Lisa Chase: “Food, Farms, and Community: Exploring Food Systems” - Ch 1. Introduction...

Week 12: International Food Policy

Tuesday November 8th: Globalization and International Policy (18)
Holt-Gimenez and Patel: “Food Rebellions! - Crisis and the Hunger for Justice” - Ch. 3 - Root Causes (Not responsible for case studies - though interesting)

Thursday November 10th: National and Local Policy (42)
Joseph Glauber: “United States agricultural policy: Its evolution and impact”
Mark Lubell: “Local policy networks and agricultural watershed management”
Week 13: Justice in the Food System

Tuesday November 15th: Justice in the System (17)
Kristen Cadieux: “What does it mean to do food justice?”

Thursday November 17th: Labor (25)
Greg Schell: “Farmworker Exceptionalism under the Law” In The Human Cost of Food
EXCERPT
WRITING PROMPT #3 DUE IN CLASS

Week 14: Food and Culture

Tuesday November 22nd: (20)
Julie Guthman: “Bringing good food to others: Investigating the subjects of alternative...”
Montanari: “Food is Culture” - Taste is a Cultural Product

Thursday November 24th: THANKSGIVING

Week 15: At the Systems End

Tuesday November 29th: Food Environments - Where we eat (13)
EK Tsui: “Institutional food as a lever for improving health in cities: the case of New York...”
Rachel Tyrrell: “Food environments of young people: Linking individual behavior...”

Thursday December 1st: Food Waste
Tristram Stuart: "Waste: Uncovering The Global Food Scandal" - EXCERPT

Week 16: Remaking the Food System - Can We?

Tuesday December 7th: Wrapping up
WRITING PROMPT #4 DUE IN CLASS

Final Exam: Tuesday December 13th – 2-3:45 pm