

SYLLABUS

PP375 Global Food Security

Fall 2012

Course Goals

by Dr. Jeri Barak

This course is for first year students interested in biological sciences, especially the complex global food chain. We will learn about global food (in)security.

Vast improvements have been made in the yield of staple crops, due to the "Green Revolution" – the transformation of agriculture that swept the world in the 1970s. However, yields have begun to level out or even fall and the revolution never materialized in Africa.

This course will explore the world's food requirements, barriers to food production (pests, climate, land availability), barriers to food availability (food prices, biofuels, quality, culture), and role of scientific breakthroughs in plant resistance to pathogens, nutritional improvements of crop plants, and the pros and cons of agribusiness's approach to feeding the world.

Finally, we will discuss the investment needed to meet food security for the world.



Instruction Team

Course Instructor: Dr. Jeri Barak
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 790 Russell Labs
 PP123 Teaching Assistant: Jose Pablo Soto-Arias
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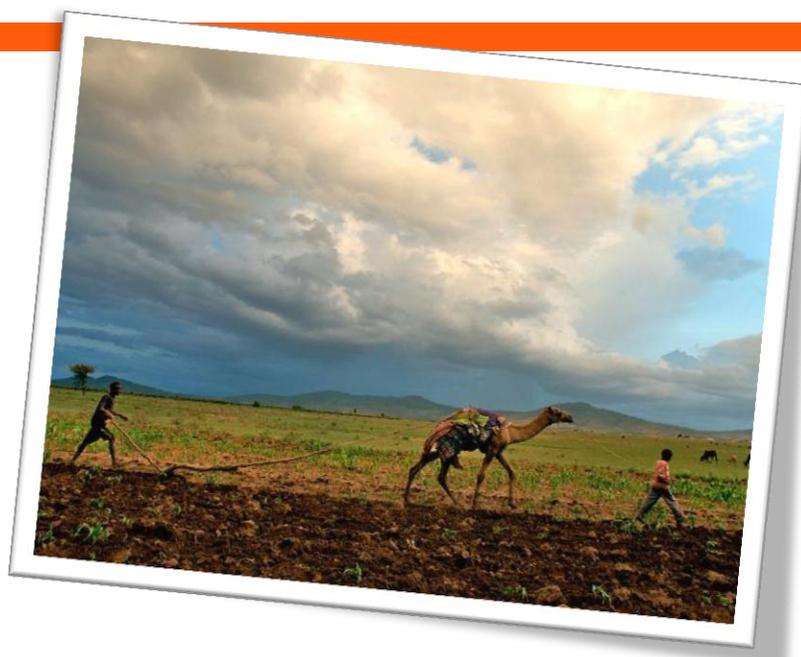
Lectures

2:25-4:20 PM in 295 Russell Labs
Attendance is mandatory for success in this class.

Student Learning Outcomes

By the end of this course you will be able to:

- Gain a working knowledge of the drivers of food insecurity.
- Evaluate complex problems through quantitative literacy to form knowledgeable opinions.
- Improve logic-based rhetoric.
- Recognize the ripple effect of domestic policies on the citizenry of other countries, especially developing countries.



ASSIGNED READINGS

Enough by Roger Thurow and Scott Kilman

Additional readings are to be downloaded from the Learn@UW course webpage. Readings are to be done **before** you come to class



Your final grade for the course will be determined as follows:

Course participation (including in-class discussions)	20%
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Quizzes	40%
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Land proposal recommendation	20%
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Memo to Instructor	10%
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Video	10%
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GRADES

This course is **not** graded on a curve since my goal is for every student to get an A! Averages at the end of the semester will be translated into letter grades as follows:

A	92-100
AB	88-91
B	82-87
BC	78-81
C	70-77
D	60-69
F	Below 60

So you want an 'A' in PP375...

Global food security is my 'thing' and earning an 'A' in my PP375 class is difficult – but not impossible. While every student and every class is different, there are some traits that my 'A' students share that can be readily identified. While no professor will guarantee an 'A' (or any other grade) to a student before the course begins, there are certain things that every student can do to improve their chances of earning the highest possible grade.

1. **Read.** 'A' students read everything they are assigned. They might not understand it all the first time they read it so they read it again. They take notes, they compare what they've read that night with what they've read the night before and the night before that. They make sure they understand everything they've been assigned and – when they can't figure it out for themselves – they ask for help.
2. **Read More.** 'A' students don't stop reading when they have finished the assigned chapter. 'A' students do not write the minimum words and decide that they have done enough analysis for their writing assignment. Instead, 'A' students read widely, investigating interesting points in more detail, chasing down footnotes, looking for alternative points of view and,

occasionally, getting lost in the vast literature that is the field of international relations. 'A' students dig deeper, read more broadly and surprise the professor by introducing contrasting points of view they have found all on their own.

3. **Make the Connections.** Decisions and events in food security are complex and are rarely explainable with simple 'if X then Y' conjectures. Small things that seem unimportant can sometimes be incredibly important; what doesn't matter to 'us' might matter very much to 'them'. Students who earn an 'A' in this course tend to be able to make connections between events and explain realities with reference to more than one, simple fact. Complexity is not a bad thing, it is encouraged.
4. **Come to Class.** If you are not in class you earn zero points for attendance and zero points for participation. Yes, I understand that having a class on a Monday when there is a big game on Saturday means your dreams of a free weekend are smashed. Deal with it. Students who earn an 'A' in this class come to every class even if it means that they don't get trashed with their friends.
5. **Participate.** Every student has an opinion and many choose to share their opinions with others. 'A' grade

students have informed opinions that they contribute constructively to the class. They listen to others and find ways or agreeing and disagreeing with others that provoke conversations rather than ending conversations. They encourage others to speak, they critique the views and not the person who holds those views, they disagree with their professor and they offer examples to support their perspective.

6. **Be Wrong.** In my experience in this course, 'A' grade students get things wrong just as often as they get things right. If this seems counter-intuitive then let me explain. 'A' students are not afraid of getting things wrong. They realize that by making errors they learn more, that being wrong doesn't mean they are a bad person or a bad student, and that progress can only come from people who think differently to the status quo. Getting things wrong is seen as an opportunity to be embraced, not a reality to be avoided. And so the 'A' student rejects rote learning (which is remembering what is in the textbook and what the professor has said in class) and instead embraces real learning (which includes thinking for yourself and getting things wrong).

COURSE POLICIES



Class participation

will be evaluated through a combination of attendance and quality of discussion (which is not identical to quantity). Anyone who attends consistently and participates with reasonable regularity will receive at least 10%. Those who contribute more often (and do so thoughtfully, not simply so that their voices will be heard) will receive higher grades than 10%.

Late assignments

I do not accept late assignments.

CELL PHONE/DIGITAL DEVICE POLICY

Please turn off all cell phones, iPhones, iPads, iPods, and other digital devices and put them away in your backpacks before class begins. First offense, everyone at your table loses **5 points** from the next quiz.

An additional offense and you will be dismissed from class. This will be reflected in your class participation grade.

PLAGIARISM POLICY

Plagiarism is passing off other people's ideas or words as your own, copying all or parts of someone else's work, having another person complete your assignment, or failing to document accurately the use of source material. Plagiarism – whether intentional or accidental – is wrong and subject to penalty. The minimum for intentional plagiarism is a zero on the assignment; the maximum is dismissal from the college.

UWS 14, regulating academic misconduct



Corn - Food or Fuel?
The summer's brutal weather is the backdrop for a renewed battle between fuel and food interests.

ASSIGNMENTS

Memo to the Instructor

This is an opportunity to enact change; this course is not set in stone.

Memo Instructions:

General. Write a three- to four-page essay, double-spaced, which means three lines/inch, with one-inch margins all around. **Do not exceed four pages.** Use a readable, reasonably large 12-point font. Completed memo is **due December 3, 2012** (by midnight, 1 second late is the next day!).

Audience. This essay is in form of a memo to the professor of the course from a teaching assistant. Assume that the teaching assistant (you) is very smart, and that the professor (me) is a bit thick, so you need to be very clear in your explanations. Remember that it's not enough just to refer to readings or general ideas – you need to include specific details relevant to your argument.

Structure. In your first paragraph, clearly state the main point you are making, along with a brief summary for the evidence and argument you will use to support it. In the essay of this sort, you should generally focus on two or three specific examples drawn from different weeks of the course. Be sure to explain how each example supports your general point.

Writing. The quality of your writing will count toward your grade. When quoting from course readings, cite author and page numbers in parentheses after the quotation. Avoid long quotations; I'm looking for your own interpretation.

Video - to be discussed

In groups of 2 or 3 students, you will produce a documentary video of people's understanding of agriculture and food security. Students will report in detail the participation of each member of the group.

In-class presentation

Each student will make an in-class presentation. Prior to your class date, each student will identify an article from a newspaper or periodical – some type of secondary literature (the authors didn't create the data themselves). If you're concerned whether your article is appropriate, check with Dr. Barak **BEFORE** its due date.

Find an article, published recently (preferable in the last few weeks, but a few months is ok as well). Articles must be available to all students (no subscription necessary)., drop the article as a word doc or PDF in the appropriate drop box on the Learn@UW course website prior to its due date.

Be prepared to present your article (10 min) to class on its assigned date. You are free to use any teaching format. You must identify what the student learning goals are for your presentation.

September 15 (dropbox deadline)

World population

September 22 (dropbox deadline)

US Farm Bill; Food prices

September 29 (dropbox deadline)

Crop Pests

October 6 (dropbox deadline)

Water

October 27 (dropbox deadline)

Temperature

November 3 (dropbox deadline)

Food vs. Biofuels

November 10 (dropbox deadline)

Food Aid

November 17 (dropbox deadline)

Plant breeding solutions to food insecurity

December 1 (dropbox deadline)

Solutions to food insecurity other than plant breeding

Course Schedule

September 6 (R)

Dinner at Dr. Barak's house

September 10 (M)

Topic: Food (In)security; Green Revolution

Readings: *ENOUGH*, p. 3-34; Borlaug65

Phytopath

Class Learning Objective: Knowledge of drivers of food insecurity and what was the green revolution; Active Reading; Quantitative literacy

September 17 (M)

Topic: Food Production

Readings: *ENOUGH*, p. 35-52

Assignment: Completed Food Diary (bring to class)

Class Learning Objective: Knowledge of what is food on the global scale

September 24 (M)

Topic: Human Population

Readings: Science article, "9 Billion?"

<http://www.sciencemag.org/content/333/6042/540.full>

Video:

<http://www.sciencemag.org/site/special/population/pop-intro-movie.xhtml>

Student presentation: World population

Class Learning Objective: Knowledge of the role of human population growth in food insecurity; Quantitative literacy

October 1 (M)

Topic: Food Prices

Readings: *ENOUGH*, p. 53-97; Farm bill PDF

Student presentation: US Farm bill; Food Prices

Class Learning Objective: Knowledge of food prices as a barrier to food production and food security

Knowledge of the role of domestic agricultural subsidies as a driver of food insecurity in developing countries.

October 8 (M)

Topic: Pests – plant pathogens

Readings: *ENOUGH*, p. 129-136

Student presentation: Crop Pests

Class Learning Objective: Knowledge of historic and future threats from plant pathogens

After class: Initiate "Community development or rank imperialism?" case scenario

October 15 (M)

Topic: Land availability I

Assignment: Land proposal recommendation to the Minister (bring to class)

Student presentation: Water

Class Learning Objective: Knowledge of the availability of arable land as a driver of food insecurity; Improve logic-based rhetoric

October 22 (M)

Topic: Campus Resources

Guest– Sara Rodock

Assignment: Final Land proposal recommendation to the Minister

(Learn@UW dropbox)

DARS report; Completed campus resource scenario

Student presentation: Water

Class Learning Objective: Knowledge of campus resources for YOU; reading a DARS report; Meeting with an academic advisor; Building a 4 year plan

October 29 (M)

Topic: Land availability II

Readings: NYTimes article Mali

Class Learning Objective: Knowledge of Mali, a food insecure country and different land stakeholders; **DEBATE**

November 5 (M)

Topic: Climate

Readings: *ENOUGH*, p. 99-125

Assignment: **QUIZ**

Student Presentation: temperature

Class Learning Objective: Knowledge of the impact of climate change on agriculture; **Demonstrate** working knowledge of drivers of food insecurity; **Analyze** current policy decisions and proposals.

November 12 (M)

Topic: Biofuels

Readings:

Student Presentation: food vs. fuel

Class Learning Objective: Knowledge of biofuels as drivers of food insecurity.

November 19 (M)

Topic: Investment in agriculture; local food aid

Readings: *ENOUGH*, p. 165-188; p. 243-257

Student Presentation: food aid

Class Learning Objective: Knowledge of agricultural investment and food aid.

November 26 (M)

Topic: Improved food production

Readings: *ENOUGH*, p. 207-241

Assignment: **Memo**

Student Presentation: Plant breeding solutions to food insecurity

Class Learning Objective: Knowledge of improved crop varieties and their impact on food security.

December 3 (M)

Topic: Clean seed

Assignment: **Video**

Guest lecturer – Dr. Ruth Genger

Visitor: Peace Corps Representative

Readings: *ENOUGH*, p. 189-206

Class Learning Objective: Knowledge of clean seed. **Active listening**

December 10 (M)

Topic: Steps toward food security for the insecure

Readings: *ENOUGH*, p. 259-275

Student Presentation: Solutions to food insecurity other than plant breeding

Class Learning Objective: Knowledge of solutions to food insecurity.

December 19 (M)

Assignment: **QUIZ**

Class Learning Objective: **Demonstrate** working knowledge to food production and availability and drivers of and potential solutions to food insecurity; **Analyze** current policy decisions and proposals

FOR MORE INFORMATION – VISIT OR EMAIL DR. BARAK