NUTB 238 -- Economics for Food and Nutrition Policy
Fall 2014

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Tufts Credit: 1 credit (3 contact hours per week over 13 weeks)
Prerequisites: Graduate standing, or permission of the instructor.

Course Description
This course equips students with the principles used in economics for food policy analysis. We use the graphical methods taught in standard, one-semester courses on the principles of economics, but our motivation, examples and applications are focused on food and nutrition problems in the United States and around the world.

Course Delivery
NUTB 238 is taught online through video lectures, conversations, presentations and exercises, with one week of on-campus work. The private, password-protected content of the class is at trunk.tufts.edu/portal/site/n238-fall14. Content for public visibility will be posted online at sites.tufts.edu/foodecon. Regular weekly office hours for individual and group conversation will be held online via WebEx following links in the Trunk site, and online meetings or phone calls can also be scheduled at other times.

Course Objectives
NUTB 238 helps students explain, predict and evaluate the social outcomes of individual choices using economics principles. Students gain familiarity with the data sources and analytical methods needed to: (1) explain and predict consumption, production and trade in agriculture and food markets; (2) evaluate the social welfare consequences of market failure, collective action and government policies including regulation, taxation and enforcement of property rights in agriculture and food markets; (3) measure poverty and inequality in income, wealth, nutrition and health, as influenced by changes in markets and policies; and (4) describe macroeconomic relationships, fluctuations and trends in incomes, employment, economic growth and development.

Texts and Materials
The required textbook for this course is Paul Krugman and Robin Wells, *Economics* (Worth Publishers, 2nd ed., 2009). Used copies are widely available online, with updated pricing listed here: www.allbookstores.com/book/compare/0716771586. The updated 3rd edition may be used instead, but is not needed. Additional material specific to this course will be distributed via Trunk. Students looking for a text applying economic principles to food policy might use *Food Policy Analysis* by Timmer, Falcon and Pearson, which is now available freely online, at:
www.stanford.edu/group/FRI/indonesia/documents/foodpolicy/fronttoc.fm.html.

Assignments and Grading
For most students, this will be your first course in economics. All lectures and discussion sessions are supported by textbook readings which provide additional detail, and can be done either before or after the topic is discussed in class. A series of 11 weekly assignments are designed to help you practice the skills needed for successful economic analysis of food and nutrition problems, while the midterm and final presentations ask you to apply those skills to an important problem in food policy analysis. The first four assignments ask you write, use graphical methods and compute the nutritional consequences of real-life food choices. The next four assignments ask you to practice applying economic principles to news articles you find on the internet, and the last three ask you to collect and interpret real-life data to illustrate the issues discussed in class. Each of these assignments is graded out of 5 points, of which the lowest will be dropped for a total of 50 points. In addition, the midterm and final presentations are worth 15 and 25 points, and your comments on other students' assignments are worth 10 points for a total of 100.

Summary of Assignments	*Grading Weight*
Eleven weekly assignments (5 points each, one dropped)	50%
Midterm and final presentations (15 and 25 pts respectively)	40%
Comments on other students' assignments	10%

Penalties for late or incomplete assignments
The deadline for each homework assignment and exam is shown on the syllabus. Students who are unable to complete an assignment or exam on time for any reason should notify the instructor by email, text message or phone at any time prior to the deadline, with a brief explanation for why the extension is needed. Late work for which an extension has not been granted will not be graded. Of the 11 weekly assignments the one with the lowest score will be dropped, so you can miss one without penalty.

Academic Conduct
In brief: Education invites you to take the ideas of others and make them your own, so you are encouraged to read widely and to discuss class materials with other students, but

any material you produce to show mastery of these ideas must be your own work. More specifically, each student is responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's *Policies and Procedures* manual (http://nutrition.tufts.edu/student/documents) and Tufts University policies (http://uss.tufts.edu/studentAffairs/documents/tuftsStudentHandbook.pdf#page=4). It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Accommodation of Disabilities
Students with documented disabilities are entitled to academic accommodation appropriate to their needs. If you require accommodations for this course, please contact me confidentially prior to the end of the second week of classes.

Course Topics & Assignment Schedule at a Glance
Note: Schedule is subject to change. All readings are from Krugman and Wells, *Economics* (Worth Publishers, 2nd ed., 2009).

Week / Classes	Topic	Reading	Assignments (due Sun. midnight)
1. Sept 2-7	What is economics? How is it useful?	Ch. 1-2	1. Personal essay (Sep 7)
2. Sept 8-14	Market equilibrium and social welfare	Ch. 3-4	2. Graphing exercise (Sep 14)
3. Sept 15-21	Government regulation and taxes	Ch. 5-8	3. Draft blog post (Sep 21)
4. Sept 22-28	Household behavior and consumption	Ch. 9-11	4. Food choice (in person, Sep 28)
-- Residency and catch-up after residency, no new material --			
5. Oct 6-12	Agricultural production & food supply	Ch. 12	5. Farm news analysis (Oct 12)
6. Oct 13-19	Agricultural production (continued)	Ch. 13	6. Price news analysis (Oct 19)
7. Oct 20-26	Market structure and monopoly power	Ch. 14-16	7. Market news analysis (Oct 26)
8. Oct 27-Nov 2	Midterm presentations (*No new reading – uploads by Wed Oct 29, feedback by Sun Nov 2*)		
9. Nov 3-9	Market failure and collective action	Ch. 17-18	8. Policy news analysis (Nov 9)
10. Nov 10-16	Poverty, safety nets and risk	Ch. 19-21	9. Poverty data analysis (Nov 16)
11. Nov 17-23	Recessions, unemployment and inflation	Ch. 22-24	10. Macro data analysis (Nov 23)
12. Nov 24-30	Growth, investment and agriculture	Ch. 25-27	None (Thanksgiving)
13. Dec 1-7	Globalization, trade and the food system	Ch. 34	11. Food data analysis (Dec 7)
14. Dec 8-14	Final presentations (*No new reading – uploads by Wed Dec 10, feedback by Sun Dec 14*)		

Course Topics, Assignment Schedule and Learning Objectives

Note: Schedule is subject to change. Learning objectives will be pursued in terms of their applicability to agriculture, food and nutrition, using examples from the U.S. and a wide variety of other countries. All assignments except presentations are due at midnight Eastern time on the Sunday at the end of the week shown, but students are encouraged to upload their work as soon as it is completed for comments and feedback it.   Midterm and final presentations are due by midnight on the Wednesday of the week shown, with comments on other students' presentations due by midnight the following Sunday.

Week 1 -- Sept 2-7
Topic: *What is economics? How is it useful for food policy analysis?*
Reading: Krugman and Wells, Chapters 1 & 2
Homework: #1. Personal essay: Thinking like an economist
Objectives: Upon completion of this week, students will be able to:
  • Describe the principles used in economics to explain and predict social outcomes
  • Describe the strengths and limitations of economics as a social science
  • Describe the strengths and limitations of economics for everyday life

Week 2 -- Sept 8-14
Topic: *Market equilibrium and social welfare in the food system*
Reading: Krugman and Wells, Chapters 3 & 4
Homework: #2. Graphing exercise: Drawing by hand
Objectives: Upon completion of this week, students will be able to:
  • Use production possibility frontiers to derive supply curves from observed prices and observed quantities
  • Use supply and demand curves to derive producer and consumer surplus measures of economic welfare from observed prices and quantities
  • Describe the strengths and limitations of using supply curves, demand curves and economic surplus to evaluate social welfare changes

Week 3 -- Sept 15-21
Topic: *Government regulation, taxes and subsidies in food markets*
Reading: Krugman and Wells, Chapters 5, 6, 7 & 8
Homework: #3. Draft blog post (based on ex #1 personal essay, or other commentary)
Objectives: Upon completion of this week, students will be able to:
  • Use supply, demand and economic surplus to evaluate the effects of government regulation and taxes on prices, quantities and social welfare
  • Use elasticities to characterize consumer and producer response to changes in income, prices and production possibilities
  • Use supply and demand diagrams with and without international trade to explain and predict prices, quantities and social welfare changes

Week 4 -- Sep 22-28
Topic: *Household behavior and food consumption*
Reading: Krugman and Wells, Chapters 9, 10 & 11
Homework: #4. Least cost diets around the world (done during residency)
Objectives: Upon completion of this week, students will be able to:
- Use marginal benefits, indifference curves and budget constraints to derive demand curves from observed prices and quantities
- Use the distinction between income and substitution effects to assess consumer welfare changes in response to variation in prices and preferences
- Describe the strengths and limitations of optimization as an explanation for food consumption choices in the U.S. and elsewhere

-- End of residency week and catch-up period, no new material –

Week 5 -- Oct 6-12
Topic: *Agricultural production and food supply*
Reading: Krugman and Wells, Chapter 12
Homework: #5. News analysis about agricultural production
Objectives: Upon completion of this week, students will be able to:
- Use marginal costs, fixed costs and input response in production to derive supply curves
- Use the distinction between scale economies and supply response to assess producer welfare changes in response to variation in prices and technologies
- Describe current events in the agricultural sector using economics principles

Week 6 – Oct 13-19
Topic: *Agricultural production & food supply (continued)*
Reading: Krugman and Wells, Chapter 13
Homework: #6. News analysis about food supply and prices
Objectives: Upon completion of this week, students will be able to:
- Use economic principles to identify the market conditions needed for perfect competition in agriculture and other sectors
- Describe the behavior of individuals and firms in perfectly competitive markets
- Describe current events in food markets in terms of perfect competition

Week 7 -- Oct 20-26

Topic: *Market structure and monopoly power*

Reading: Krugman and Wells, Chapters 14, 15 & 16

Homework: #7. News analysis about food companies

Objectives: Upon completion of this week, students will be able to:
- Use economics principles to identify the market conditions needed for firms to acquire monopoly power in markets for food, farm inputs and other sectors
- Describe the behavior of individuals and firms in monopolies and other market structures
- Describe current events in food markets in terms of market structure

Week 8 -- Oct 27-Nov 2

Topic: *Midterm presentations*

Reading: Nothing new – use previous material for presentations and comments

Homework: Upload presentation by the end of Weds., post feedback by end of Sunday

Objectives: Upon completion of this week, students will be able to:
- Use economic principles to explain explain and predict consumption, production and economic welfare changes using graphical methods, in a verbal presentation with PowerPoint slides
- Describe the strengths and weaknesses of economics methods relative to other approaches to explain, predict and evaluate responses to current events, through constructive criticism posted in response to other students' presentations

Week 9 -- Nov 3-9

Topic: *Market failure and collective action*

Reading: Krugman and Wells, Chapters 17 & 18

Homework: #8. News analysis about food policy and politics

Objectives: Upon completion of this week, students will be able to:
- Use economic surplus to evaluate welfare consequences of externalities, environmental damage and other market failures
- Describe the opportunities for collective action to provide public goods and regulation, taxation and property rights enforcement to remedy market failures
- Describe current events in terms of market failure and collective action

Week 10 -- Nov 10-16
Topic: *Poverty, safety nets and risk*
Reading: Krugman and Wells, Chapters 19, 20 & 21
Homework: #9. Data analysis on poverty and nutrition
Objectives: Upon completion of this week, students will be able to:
  • Use economic principles to apply poverty lines and other thresholds for measuring welfare and targeting social programs
  • Describe major influences on income distribution, inequality and social mobility
  • Obtain and present current data on global poverty and malnutrition rates

Week 11 – Nov 17-23
Topic: *Recessions, unemployment and inflation*
Reading: Krugman and Wells, Chapters 22, 23 & 24
Homework: #10. Data analysis on income, growth and development
Objectives: Upon completion of this week, students will be able to:
  • Use economic principles to explain and predict business cycle fluctuations, including the timing and extent of recessions, unemployment and inflation
  • Describe the role of fiscal and monetary policy in managing business cycles
  • Obtain and present current data on incomes, employment and inflation

Week 12 – Nov 24-30
Topic: *Growth, investment and agriculture*
Reading: Krugman and Wells, Chapters 25, 26 & 27
Homework: None (give thanks instead!)
Objectives: Upon completion of this week, students will be able to:
  • Use economic principles to explain and predict economic growth and structural transformation between agriculture, industry and services over time
  • Describe the experience of economic growth across countries and regions
  • Obtain and present current data on economic growth and development

Week 13 -- Dec 1-7
Topic: *Globalization, trade and the food system*
Reading: Krugman and Wells, Chapter 34 and review Chapter 8
Homework: #11. Data analysis on world food trade
Objectives: Upon completion of this week, students will be able to:
  • Use economic principles to explain, predict and evaluate changes in international trade, foreign investment and capital flows among countries
  • Describe the major changes associated with globalization of agriculture and food
  • Obtain and present current data on food production, consumption and trade

Week 14 – Dec 8-14
Topic: *Semester review*
Reading: Nothing new -- review previous course slides and readings
Homework: Final presentations (upload by midnight Wed., feedback by midnight Sun.)
Objectives: Upon completion of this week, students will be able to:
- Use economic principles for the various purposes described in the course description and weekly objectives
- Describe those various applications of economic principles in terms of their common features, strengths and weaknesses
- Judge the applicability of economics principles for personal, career and social decisions
- Conduct research and present policy analyses verbally using PowerPoint slides, through practice in presenting own results and critique of others' presentations

Exercises

The exercises for this course are adapted for online work, with the exception of the week 3 exercise which is done in-person during the residency on campus. Each assignment is to be uploaded to Trunk (our private, password-protected course site) for review and grading; a selection of the best assignments will then be posted to our course blog, which will be open to the public. Thus, all assignments should be undertaken with the goal of being sufficiently well-crafted to be of interest to other readers interested in food and nutrition policy. Your own assignments will count for 90% of your grade in this class, and 10% will be determined by your comments on other students' assignments posted to the course blog at http://sites.tufts.edu/foodecon.

Week 1. Personal essay: *What does it mean to 'think like an economist'?*
Our first exercise is to describe one or more example(s) from your own life in which you did (or did not) use economics principles in your own decisions or to understand others peoples' choices and societal outcomes. Was this way of thinking helpful? Why? (Max. 1000 words)

Week 2 -- Graphing exercise: *Drawing by hand*
This assignment asks you to hand-draw the main diagrams used in economics to show two-dimensional slices of our infinite-dimensional world, following a set of instructions provided online. Upload photos of your charts and describe what you drew. (Max. 500 words)

Week 3 – Draft blog post: *An example of 'thinking like an economist'*
From what you've seen from the first two weeks of class, this assignment asks you to draft an initial blog post describing an example of economics in action. These should be shorter than your ex. #1, and typically link to something else on the web. They can be revised versions of your personal essay, a different example from your own life, or commentary on something you've seen elsewhere. (Max. 500 words)

Week 4 -- Group exercise: *Least-cost diets around the world*
During the in-person residency, you will work together in small groups to assemble real data from authoritative sources around the world on the nutritional aspects of food consumption choices at various levels of income, including particularly the least-cost diet needed to meet your nutritional needs.

-- In the week after your on-campus residency, so you will probably need to catch up on other work, and maybe take this opportunity to post comments on other students' previous assignments now that you have met them all in person --

Week 5 -- News analysis: *Agricultural production*
This is the first of five assignments asking you to provide economic analyses of two recent news articles, following instructions provided online. In this case, the articles should focus on actual or possible change in the physical or technological circumstances affecting farmers' food production choices somewhere in the world.

Week 6 – News analysis: *Food prices*
Your second news-analysis exercise asks you to describe and provide an economic analysis of two recent events affecting food prices in a competitive market somewhere around the world.

Week 7 -- News analysis: *Food companies and market structure*
The third news analysis concerns the behavior of one or more individual companies that may (or may not) come to hold a monopoly position in a particular market.

Week 8 -- Midterm presentation: *News analysis briefing (by video)*
The midterm assignment for this class is to record and upload a 10-minute video briefing your colleagues on recent news regarding a particular change in food production, prices and markets somewhere in the world. Detailed instructions will be provided online.

Week 9 -- News analysis: *Food policy and politics*
Your final news analysis concerns how political systems have responded to events in food and nutrition, describing and analyzing a particular intervention in the US or elsewhere.

Week 10 -- Data analysis: *Diets and nutritional outcomes*
This is the first of three assignments to practice obtaining, transforming and presenting current data from authoritative sources. The first data collection tasks concerns evidence on income levels and poverty, food consumption and nutritional status around the world.

<u>Week 11 – Data analysis: *Income, growth and development*</u>
The second data-analysis exercise involves data on income levels, growth rates and associated changes in living conditions in recent decades across various countries.

<u>Week 12 – -- No new assignment</u>
This week is for Thanksgiving!

<u>Week 13 -- Data analysis: *World food markets and trade*</u>
The last data-analysis exercises focuses on production, consumption and trade patterns for the major food groups.

<u>Week 14 – Final presentation: *Data analysis briefing (by video)*</u>
The final task for this class is to record and upload a 15-minute video briefing your colleagues on recent trends and comparisons regarding an important issue in food and nutrition, providing an economic analysis of authoritative data. Detailed instructions will be provided online.