NUTB 238 -- Economics for Food and Nutrition Policy

Fall 2015

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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-fall15. 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 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 course project has 40 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%
Course project (40 pts total)	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

Education invites you to take the ideas of others and make them your own. 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 school's *Policies and Procedures* manual (http://nutrition.tufts.edu/student/documents) and 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.

Accommodations of Disabilities

Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their personal and academic potential. If you have a disability that requires reasonable accommodations, please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements for determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.

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 8-13	What is economics? How is it useful?	Ch. 1-2	1. Personal essay (Sep 13)
2. Sept 14-20	Market equilibrium and social welfare	Ch. 3-4	2. Graphing exercise (Sep 20)
3. Sept 21-27	Government regulation and taxes	Ch. 5-8	3. Draft blog post (Sep 27)
4. Sept 28-Oct 4	Household behavior and consumption	Ch. 9-11	4. Food choice (in person Oct 3-5)
5. Oct 5-11	Agricultural production & food supply	Ch. 12	5. Farm news analysis (Oct 11)
6. Oct 12-18	Agricultural production (continued)	Ch. 13	6. Price news analysis (Oct 18)
7. Oct 19-25	Market structure and monopoly power	Ch. 14-16	7. Market news analysis (Oct 25)
8. Oct 26-Nov 1	Market failure and collective action	Ch. 17-18	8. Policy news analysis (Nov 1)
9. Nov 2-8	Course project: draft problem statement, analytical methods & data sources		(Nov 8)
10. Nov 9-15	Poverty, safety nets and risk	Ch. 19-21	9. Poverty data analysis (Nov 15)
11. Nov 16-22	Recessions, unemployment and inflation	Ch. 22-24	10. Macro data analysis (Nov 22)
12. Nov 23-29	Growth, investment and agriculture	Ch. 25-27	*None (Thanksgiving)*
13. Nov 30-Dec 6	Globalization, trade and the food system	Ch. 34	11. Food data analysis (Dec 6)
14. Dec 7-13	Course project: final reports and presentations		(Dec 13)

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.

Week 1 -- Sept 8-13

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 14-20

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 21-27

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 28-Oct 4 (in-person classes on Oct 3, 4 and 5)

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

Week 5 -- Oct 5-11

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 12-18

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 19-25

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 26-Nov 1

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 9 -- Nov 2-8

Topic: *Putting it all together – completing stage 1 of the course project*
Reading: Nothing new
Homework: Upload document as detailed in course project guidelines
Objectives: Upon completion of this week, students will be able to:

- Use economic principles to address an important food and nutrition policy question, identifying appropriate analytical diagrams and data sources.
- Communicate that economic analysis in writing, using constructive criticism of others' writing to help each other write more effectively.

Week 10 -- Nov 9-15

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 16-22

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 23-29

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 – Nov 30-Dec 6

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 7-13

Topic: *Putting it all together – completing stage 2 of the course project*
Reading: Nothing new
Homework: Upload document and video as detailed in course project guidelines
Objectives: Upon completion of this week, students will be able to:

- Use economic principles to address an important food and nutrition policy question, drawing appropriate analytical diagrams and using available data to construct meaningful charts and tables.
- Present food and nutrition policy analyses verbally and in writing, through practice in presenting own results and providing feedback on others' presentations.

Exercises

The exercises for this course are adapted for online work, with the exception of the week 4 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 in Trunk and any posts you might make on 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 economic principles in your own decisions, to understand others peoples' choices and the societal outcomes of interactions between people. (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 addresses one or more items elsewhere on the web which you can discuss and link to in your blog post. These draft blog posts can be revised versions of your personal essay, or a commentary on something else. You are particularly encouraged to use this as an introduction to the question you'll address in your course project. (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.

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 -- 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 9 – Project stage 1: *Draft problem statement, analytical methods and data sources*
The first stage of the course project builds on the first set of exercises, asking you to identify a specific food and nutrition policy problem of interest, draw one or more analytical diagrams needed to explain and predict observed outcomes, and describe one or more available data sources with which you can make original charts and tables to summarize those observations. Detailed instructions are provided in the project guidelines.

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.

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

Week 12 – -- No new assignment
This week is for Thanksgiving!

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

Week 14 – Project stage 2: *Final presentation in writing and in person (by video)*
We end the class by presenting and learning from each other's course projects, putting all your skills together and communicating the results effectively in person (through a recorded video) and in writing (through a well-documented report). Detailed instructions are provided in the project guidelines.

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9. Nov 2-8	Course project: draft problem statement, analytical methods & data sources		(Nov 8)
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Course Topics, Assignment Schedule and Learning Objectives

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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 14-20

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 21-27

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 28-Oct 4 (in-person classes on Oct 3, 4 and 5)

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

Week 5 -- Oct 5-11

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 12-18

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 19-25

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 26-Nov 1

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 9 -- Nov 2-8

Topic: *Putting it all together – completing stage 1 of the course project*
Reading: Nothing new
Homework: Upload document as detailed in course project guidelines
Objectives: Upon completion of this week, students will be able to:

- Use economic principles to address an important food and nutrition policy question, identifying appropriate analytical diagrams and data sources.
- Communicate that economic analysis in writing, using constructive criticism of others' writing to help each other write more effectively.

Week 10 -- Nov 9-15

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 16-22

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 23-29

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 – Nov 30-Dec 6

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 7-13

Topic: *Putting it all together – completing stage 2 of the course project*
Reading: Nothing new
Homework: Upload document and video as detailed in course project guidelines
Objectives: Upon completion of this week, students will be able to:

- Use economic principles to address an important food and nutrition policy question, drawing appropriate analytical diagrams and using available data to construct meaningful charts and tables.
- Present food and nutrition policy analyses verbally and in writing, through practice in presenting own results and providing feedback on others' presentations.

Exercises

The exercises for this course are adapted for online work, with the exception of the week 4 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 in Trunk and any posts you might make on 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 economic principles in your own decisions, to understand others peoples' choices and the societal outcomes of interactions between people. (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 addresses one or more items elsewhere on the web which you can discuss and link to in your blog post. These draft blog posts can be revised versions of your personal essay, or a commentary on something else. You are particularly encouraged to use this as an introduction to the question you'll address in your course project. (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.

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 -- 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 9 – Project stage 1: *Draft problem statement, analytical methods and data sources*
The first stage of the course project builds on the first set of exercises, asking you to identify a specific food and nutrition policy problem of interest, draw one or more analytical diagrams needed to explain and predict observed outcomes, and describe one or more available data sources with which you can make original charts and tables to summarize those observations. Detailed instructions are provided in the project guidelines.

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.

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

Week 12 – -- No new assignment
This week is for Thanksgiving!

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

Week 14 – Project stage 2: *Final presentation in writing and in person (by video)*
We end the class by presenting and learning from each other's course projects, putting all your skills together and communicating the results effectively in person (through a recorded video) and in writing (through a well-documented report). Detailed instructions are provided in the project guidelines.

NUTB 238 -- Economics for Food and Nutrition Policy
Fall 2015

Guidelines for your course project

The course project helps you use economic methods to address a puzzle or problem of interest to you or a potential employer. It builds on our class exercises, gradually putting together each of the elements needed for an authoritative oral presentation and written report to identify the economic dimensions of a food and nutrition problem, draw the economic diagrams used to explain observations and predict changes, and construct original charts and tables of observed data.

The results of this project are intended to serve as a useful sample of your ability to post online or use in job applications, and to give you practice following the analytical steps needed to analyze other questions in professional settings. For the project you must put all these skills together and communicate the results effectively in person (through a recorded video) and in writing (through a well-documented report).

Your work on the project will be submitted in two stages, each of which will be shared with the rest of the class for feedback. Stage 1 is a draft for the first part of your report, describing the problem you address, your analytical approach using economic diagrams such as indifference curves, and the data sources you have found. Stage 2 is a revision of all that, plus results including original charts and tables constructed from those data sources, in both a written report and a verbal presentation. Stage 1 is due in early November, and stage 2 is due in mid-December.

The hardest and most important part of this assignment is choosing a good topic. Please reach out for feedback on possible topics as soon as you think of them, typically in the first two or three weeks of the semester. To be suitable, the topic should:

- ***Use economics***, as we define it in this class. Economics can be applied to almost all food and nutrition policy questions that involve observable behavior with measurable outcomes. The economics approach can then illustrated with one or more of the analytical diagrams, such as indifference curves or supply and demand curves, used in our news analysis exercises.
- ***Use data,*** of a type that you can obtain and analyze within the available time. Data availability is a major constraint. The project requires downloading and transforming public-domain data into meaningful charts and tables, as in the data analysis exercises.
- ***Be interesting*** to you and to a potential employer. The project will take a lot of your time and could give you a great writing sample for future job searches, so should be about a topic of importance to you and others. You will typically learn what is most important as you investigate, so your initial topic is just a starting point.

It is generally desirable to think about your topic slowly, drawing inspiration from material you discover over the first few weeks of the semester, and getting personal feedback from instructors and others. You should then allow the topic itself to evolve as you work, based on what you discover about it. Your topic may even change completely. To find material you will need to search the entire internet (www.google.com) and published research (scholar.google.com or http://www.ncbi.nlm.nih.gov/pubmed and other search tools), using the Tufts library subscriptions to access restricted material.

Examples of good projects might involve food production such as animal welfare, climate change, environmental quality, land use and rural development; consumption such as dietary patterns and health, cultural history, or socioeconomic inequities; marketing such as corporate control, what's in processed and restaurant food, pricing and packaging; or policies such as school meals, labeling laws, subsidies and taxes. A good topic is often focused on a question (how do various countries regulate food advertisements aimed at children?), a policy choice (what will happen to raisin prices now that the Supreme Court has removed the USDA's marketing order?), or a goal (how might we help increase fresh fruit and vegetable consumption)? The "recipe" for many good research papers is to combine two sources of numerical data, using ideas from two different schools of thought, but you are free to choose any topic of personal and professional interest, as long as you can draw analytical diagrams using economics to explain and predict observable outcomes, and obtain data to show those outcomes using charts and tables.

Stage 1. Draft problem statement, analytical methods and data sources (due November 8th)
To demonstrate that you are on a promising path and see what others are doing, all class participants must submit stage 1 of their project at the end of week 9, by which time you will have all the skills needed to complete it. The first stage submission is a draft version of the first part of your project report, describing the problem you are addressing, the economic approach to analyzing that problem, and the data sources you have found. This should be presented as roughly 1500-2500 words of text, plus references cited, figures or tables, in the following structure:

1. **Identifying information:** Your name and contact details, the purpose of the document (course number, course title, and assignment information), date and title of the report itself. This can be a separate page, or the top of your first page. All pages must be numbered, preferably with a header of footer that has an abbreviated title as well. The purpose of this is to ensure that readers always know who made the document, when and why.
2. **Problem statement**: A description of the question or problem that your project addresses, including citations to previous scholarly and professional work on that topic. Each field and profession has uses their own conventions, and you should follow the style of the field which you intend to influence. For economics, one important requirement is to describe explicitly whose decisions are being addressed in your project, and how your project could inform those decisions.
3. **Analytical framework:** A description of how you will approach the question. To support an economic analysis of the problem, *this section must include at least one of the analytical diagrams used in class* and in your news-analysis exercises, such as indifference curves and expenditure lines. Those diagrams will help guide your analysis, providing the framework, abstract model or theory of change to guide your interpretation of what caused the observations you observe and what other outcomes might be observed under different circumstances.
4. **Data sources**: A description of what observations are available for you to download and transform into original tables or charts of useful data. Many kinds of observations can be useful, but for this project they must be public-domain data from the most authoritative sources available. At this stage your task is to describe hose those data were collected and what they represent. You may also present draft charts or tables of the data, in preparation for the final version which will contain at least two carefully-constructed charts or tables.

Stage 2. Final report and presentation (due December 13th)
Your completed work will take the form of a 10-minute verbal presentation around 6-8 slides, and then a final paper on the order of 3000-5000 words of text (not counting bibliographic references). These are the main modes of communication through which economic analysis is disseminated, typically following a structure like the one used for this assignment. Written papers and oral presentations typically go together, with one reinforcing the other. To achieve the highest attainable standard of work, the slides and paper should consist of thoroughly edited and revised versions of the sections submitted for stage 1, plus:

5. **Results**: A description of what you found when transforming data into meaningful charts and tables. For this project, this kind of analytical result will involve only the simplest kind of statistics such as averages and standard deviations. You should not expect to conduct regressions, do formal hypothesis tests, or actually estimate the curves and lines drawn in your analytical diagrams. Doing that would be a much larger project. For now your goal should be to present data in a meaningful way, using the general concepts illustrated in your analytical diagrams to explain verbally what could have caused the results you see, and how those findings help answer the questions posed in your problem statement.
6. **Conclusions**: This section should summarize your work, without introducing any new material. The concluding text should connect the dots between previous work on your topic that you summarized in the problem statement, and your own results as presented in the analytical method (including the particular production possibilities or indifference curves, supply and demand or other diagrams you drew), data sources and results (including the particular charts and tables you produced).
7. **Abstract**: This goes at the start of your report and presentation but is often written last. The written version should be up to 250 words describing the problem you address, the people affected, the analytical framework, data and results you find.

The written version of your project should be between 3000 and 5000 words in length, plus bibliographic references, with your analytical figures such as indifference curves or supply-demand diagrams and your charts or tables inserted in the text. Your sources should be cited in a standard social-science style, typically that of the American Psychological Association (www.apastyle.org), for which you may want to collect references using a citation manager such as Zotero (http://researchguides.library.tufts.edu/CitingSources/CitingSourcesCitationManagers). Before submission, please save your complete report as a single PDF document under a filename in the format of: N238-ProjectReport-FirstnameLastname.pdf.

The oral presentation of your project will be no more than 10-minute recording, based on no more than 10 slides or images. The sequence of slides should be similar to the outline of your written report, but designed for verbal and visual communication. It is possible to use a variety of video recording formats, but the easiest is simply to record audio over your slides from within PowerPoint or other presentation software, which you then save as an mp4 video file under a filename such as N238-ProjectPresentation-FirstnameLastname.mp4.