NEW Autumn 2024

ECONOMICS OF FOOD SYSTEMS

Register for:

NUTR 490A
FISH 497B
5 credits

Instructor:

Chris Anderson
Professor, SAFS

SCHOOL OF PUBLIC HEALTH
FOOD SYSTEMS, NUTRITION, AND HEALTH
UNIVERSITY of WASHINGTON

SCHOOL OF AQUATIC & FISHERY SCIENCES

SCHOOL OF PUBLIC HEALTH
UNIVERSITY of WASHINGTON

FISH 497B Special Topics
Economics of Food Systems

Fall 2024
MWF
ROOM
5 Credits

Instructor

Professor Christopher Anderson
316A FSH
Tel: 543-1101
cmand@uw.edu

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Objectives

This course is designed to introduce students interested in food and food policy to the economic forces that shape individual decisions and aggregate outcomes in our food system. The course will travel through the food system studying the factors that shape behavior for actors at each stage, including consumers, retailers, wholesalers and traders, producers (farmers and fish harvesters), and their suppliers. For each group, we will develop the skills to answer four questions: First, we will consider the incentives that govern the decisions they make, including social, market, and policy and regulatory forces. Second, we will critically evaluate the impact of these choices for the food people eat, whose livelihoods are supported in the food system, and effects on resources and the environment. Third, we will use economic models to predict how policy options can alter individual decisions to shift social and economic outcomes. Finally, we will use a political economy framework to identify incentives within the political and regulatory system and predict political feasibility.

Learning Goals

Broadly, this course aims to develop skills in using economic models to precisely explain how food system outcomes are an emergent property of individual decisions, and critically evaluate the tradeoffs associated with alternative policies for addressing additional economic, social or health objectives.

- Classify the major components of the food system, and their principal actors
  - Characterize the motivations of each category of actor
- Apply constrained utility model to explain how consumers make food choices
  - Analyze how consumers maximize utility subject to budget constraints
  - Critique efforts to influence consumer preferences
- Interpret and apply the model of competitive equilibrium
  - Apply the model to analyze how prices, quantities and allocations are determined through markets
  - Predict the effects of supply and demand shocks, including taxes and subsidies.
  - Argue why economists think of markets as efficient.

    - Apply the model to infer changes in price and quantities based on news events.
- Evaluate the effect of imperfect competition on food system outcomes
    - Apply market models to cases of imperfect competition
    - Appraise the costs and benefits of intellectual property rights to food
    - Analyze drivers of consolidation in the food system
- Evaluate the impacts of regional and international trade on the food system
    - Appraise tradeoffs associated with local vs. global food sourcing
- Analyze the environmental and natural resource impacts of the food system
    - Assess relative environmental impacts of major food categories
    - Apply market model to analyze pollution externalities
    - Apply Analyze fisheries and groundwater as a renewable common pool resources
    - Appraise evidence for consumer preferences for sustainable food
    - Examine drivers of food waste
- Evaluate whether proposed policies are or are not politically viable based on incentives of affected stakeholders
    - Interpret who bears the costs and receives the benefits of policies, and identify when policy effects are sufficient to motivate political activity.

Pedagogical and evaluation methods will practice skills in:

- Critical reading of news and interpretation of events to understand described motivations and effects.
- Developing and structuring arguments that explain how and why.
- Applying and interpreting graphical models.
- Writing and revising technical communication conveying models to readers.

Prerequisites

This course builds on familiarity with microeconomics, introducing models that are important for the food system. ECON200, FISH230 or equivalent are highly recommended.

Readings

This course is unique in the varying backgrounds of its students, its range of topics, and its depth in food system economics. As a result, there is no single book that covers a majority of the material adequately and at an appropriate level. As a foundation in economic concepts and descriptions of the food system, we will draw on the following required textbook

Economics of the Food System, 1st Ed. (2018) Blandford, Dunn and Webb (BDW)

As a basis for our critiques of the food system, I will provide additional readings and draw heavily on the additional optional textbook:

Environmental Economics and Management by Scott Callan and Janet Thomas

If you have not had any economics, you may find it useful to have a *Principles of Microeconomics* text, like the one by N. Gregory Mankiw (referenced in the reading list); it is fine to save money by purchasing an older edition (back to 3 is fine).

In addition, we will draw heavily from several supplemental readings. Links to the readings will be provided on the course's Canvas site.

Canvas

Readings and other critical information, including homework assignments, will be distributed on the course page on Canvas. You will be responsible for accessing the site on a regular basis.

Grading

This class covers wide range of tools and factual material, including new ways of thinking about and managing natural resources and the environment. Daily preparation is expected.

You will be assessed on mastery of concepts and extension of them novel applications through exams and a final project.

Grades will be determined as follows:

Discussion	10%
Quizzes	15%
Midterms	35%
Final Project	40%

Conversion to 4.0

The course will be graded using the percentage grade scale below. The scale will be adjusted if no students score in the 96-100% range

Percentage	GP	Percentage	GP	Percentage	GP
58	0.7	69	1.8	81	3
59	0.8	70	1.9	82	3.1
60	0.9	71	2	83	3.2
61	1	72	2.1	84	3.3
62	1.1	73	2.2	85	3.4
63	1.2	74	2.3	86	3.5
64	1.3	75	2.4	87	3.6

65	1.4	76	2.5	87-88	3.7
66	1.5	77	2.6	89-90	3.8
67	1.6	78	2.7	91-92	3.9
68	1.7	79	2.8	93 and above	4
		80	2.9		

Methods of Teaching

Barring dramatic changes in health recommendations on campus, this course will be taught fully in-person. While short video lectures may be made available through Canvas to introduce or support material presented in class, I am not planning to record class sessions and will not be offering remote synchronous attendance. Please let me know if you have multiple planned absences so we can arrange to get you necessary material.

Lectures (typically Wednesday and Friday)

This course will operate as a "partially flipped" classroom. Key content will be delivered in both in short pre-recorded videos, and in in-person class meetings. Class meetings will involve a variety of activities, often mixing modes of instruction within a single class meeting.

Lectures allow me to introduce and reinforce the frameworks we will be using for analysis, drawing on models and interpretations from different sources. Lectures will make extensive use of the "whiteboard", and will involve constructing a lot of graphs. They will be your primary guide to the material I think is important, and thus will appear on exams and heavily weighted in the final project rubric.

Prerecorded videos Some concepts will be introduced through short pre-recorded videos that should be watched before class, in support of a partially-flipped classroom. Textbook readings are supportive of lecture materials, and may be referenced as needed. Videos will remain posted so they can be reviewed at any time.

Breakout group exercises Class will often break into small groups to practice solving problems using the models and frameworks developed in class. Often, we will read a short newspaper article, or listen to or watch a news clip, apply the models we are currently learning to better understand the event reported, the actions of the people affected, and the reasoning or mechanisms behind the reported effects. These applications will be practice for exam short answer questions and your final project.

Class exercises are experiential games that give hands-on experience facing the decisions of the people whose choices we are studying. In addition to being fun, they provide focus and insight that will help you interpret and apply models. Points earned in the class exercises will provide extra credit.

Discussion Section (Typically Monday; I am considering splitting the class into two sections for this)

The Monday discussion section will be used to review and discuss readings that provide motivate and provide context for the week's topic. To prepare for discussion, you must read and think about the readings provided.

Your discussion grade will be based on a small group discussion activity completed during class. In class, you will be assigned to groups of 3-5, to complete answers to set a discussion questions in Google Docs. Your grade will be based on 1) completion of the questions; 2) depth and responsiveness reflected in your group's response to the questions and 3) peer evaluation of your preparedness for the discussion.

Mid-terms

There are two 80-minute in-class mid-term exams during the term, each counting for 20% of the grade. The exams emphasize the most recently covered material, and are not explicitly cumulative. The exams will focus on short answer questions, most of which ask you to apply models from class to interpret news article given to you with the exam.

Quizzes

Canvas quizzes will given following each week and consist of five multiple-choice questions. They are designed to help you keep up with the material, and give you practice on the type of questions on the multiple choice section of the exams. Missed quizzes cannot be made up, but everyone's lowest quiz score will be dropped, in anticipation of each person having a valid reason to miss a quiz.

Final Project

In lieu of a final exam, you will write a five-page final project where you will consider the journey of a product of your choice through the food system. You will use the frameworks and models discussed in class to identify the actors and their motivations within each stage of food production, distribution and consumption. At one stage, you will identify a potential social or economic problem that could be addressed, and explain how one policy will address that problem. An assignment and rubric will be distributed later in the quarter; there will be intermediate due dates.

Class Policies

Collaboration

Your peers are often your best resource for learning. Working in groups to complete the exercises and plan and revise your final paper is strongly encouraged. However, work you turn in must be in your own words. It is suggested you make sparse notes in a group setting, and then write up your own answers to turn in.

Academic (Mis)Conduct

At the University level, passing anyone else's scholarly work (which can include written material, exam answers, graphics or other images, and even ideas) as your own, without proper attribution, is considered academic misconduct. Because I am interested in how well you understand and can explain the situations and models discussed in class, it is imperative your work is in your own words. Shared homework or test

answers or plagiarized assignment answers, will receive a zero for the assignment for involved parties and will be referred to the university for disciplinary action.

Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). I expect that you will know and follow the university's policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the College of the Environment Academic Misconduct Policy and the University of Washington Community Standards and Student Conduct website. University plagiarism policies apply

Disability

Full participation in this course requires the ability to read and synthesize written material, attend three classroom sessions a week (up to 80 minutes), participate in class discussion, and compose mathematical and graphical answers to homeworks and projects. If you anticipate or experience barriers to your learning or full participation in this course based on a physical, learning, or mental health disability, please contact the instructor to discuss possible accommodation(s) within the first week of class, or at least a week before you anticipate an issue. The instructor will maintain confidentiality of the disability and associated accommodations.

A more complete description of the disability policy of the College of the Environment can be found http://coenv.washington.edu/intranet/academics/teaching/disability-accommodation/. If you have, or think you have, a temporary or permanent disability that impacts your participation in any course, please also contact Disability Resources for Students (DRS) at: 206-543-8924 V / 206-543-8925 TDD / uwdss@uw.edu e-mail / http://www.uw.edu/students/drs.

Religious Accommodation

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Religious Accommodations Policy (https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form (https://registrar.washington.edu/students/religious-accommodations-request/).

Reading List (Subject to change)

Hilborn, R. J. Banobi, S. Hall, T. Pucylowski, and T. Walsworth. 2018. The Environmental Cost of Animal Source Foods. *Frontiers in Ecology and the Environment* 16:329-35.

Greenberg, P. 2013. Specific reading TBD.

Kamp, D. 2007. *The United States of Arugula: The Sun Dried, Cold Pressed, Dark Roasted, Extra Virgin Story of the American Food Revolution.*

Knapp. G. 2011. Economic Objectives. Draft book chapter.

	Topic	Learning objectives	Text	Other readings
1	Intro	Syllabus review, policy, motivation		
2	Issues reading	Why think economically?		Gunnar Knapp, Objectives of Economics
3	Defining the food system	Identifying individual actors How food is different from other products	Ch 1-2	Sustainable Food Systems: Concept and Framework (FAO)
4	Consumers	Where people spend food dollars	Ch 8	*What I eat is your business*
5		Utility and preferences		
6		Budgets, maximization, substitutes		
7	Influencing Consumers	Labels (eco, health and nutrition)		From *United States of Arugula*
8		Marketing and Nudges		
9	Demand	Summing individual demand and elasticity	Ch 3	
10		Reflection on own choices		Meal Reflection Assignment
11	Perfect competition	Competitive Equilibrium, surplus, efficiency	Ch 4	
12		Supply and demand shocks		
13	EXAM			
14	Producers	Choices producers make		Watch Netflix *Rotten: A Sweet Deal* (sugar production)
15	Supply	Basis, costs, production	Ch 4	
16		Elements of cost; maximization; Economies of scale; technical efficiency	Ch 6	
17	Imperfect competition	Costs and Benefits of concentration		*Omnivore's Dilemma* Corn chapter?

18		Monopoly rent, patents, product differentiation; Cooperatives and granges (food hubs?)	Ch 15	
19				
20	Trade	Issues from trade		Paul Greenberg *American Catch*
21		Trade vs. protectionist policies	Ch 10, 11	
22	EXAM			
24	Environmental impact of food	Environmental footprint of food		Hilborn, R. J. Banobi, S. Hall, T. Pucylowski, and T. Walsworth. todaysfarmedfish.org
25		Externalities in markets and why farmers don't just grow organic		
26		Taxes and subsidies		
27	Policy and Politics	Farm subsidies		*Farm subsidy controversy*
28		Collective choice model	Ch 9	Farm bill reading
29		Farm bill, Initiative 522	GMO Controversy	Initiative 522 and applying model