

**NUTC 263 – Sustainability and the Food Consumer: Reducing Environmental Impacts
through Consumer Choice
Summer 2018**

Class meeting: Online

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Office hours: By appointment on Skype or phone.

Credit awarded: 3 SHUs

Prerequisites: None

Course description: Every day, we make numerous choices about what to eat - and what not to eat. How do consumers and households make these choices, and how can the environments in which we make these choices be shaped to enhance sustainability without sacrificing our health or enjoyment of food? In this course we draw upon insights from economics, psychology, marketing, and nutrition to explore topics such as current food consumption patterns, determinants of food choice, the role of food labeling and market-based initiatives in enhancing sustainability, and the impact of regulation and "nudges" on consumer behavior around food.

Course objectives: Upon completion of this course students will be able to:

1. Define what sustainability means with respect to food products and articulate the complexities of this definition.
2. Apply both an economic and marketing perspective of consumer behavior to understand and examine interest and demand for sustainable food products.
3. Define what sustainable attributes are on food products and how consumers identify these characteristics in the marketplace.
4. Understand how consumer willingness to pay for sustainable attributes in food products is estimated empirically and how this information can be used to introduce new attributes into the marketplace.
5. Describe and articulate how government policies promote or inhibit the development of sustainable food products and how these policies impact consumer demand for products.
6. Describe the barriers and opportunities that exist for industry to supply sustainable food products to consumers.
7. Describe the barriers to demand for sustainable food products and how these may be overcome through policy mechanisms and/or behavioral economics. Students will also be able to articulate concepts in behavioral economics and apply these to understand demand for sustainable food products.

Course materials: Required readings are available online through the course website on Canvas, the Tufts University course management system. You are required to purchase Introduction to the U.S. Food System: Public Health, Environment and Equity edited by Roni Neff, published by Josey Bass. The book can be purchased on the publisher's website (<http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118063384.html>) or on Amazon.com. Students based in Boston can also use the reserve room copy at the Hirsh Library on our Health Sciences campus.

Academic conduct: The Tufts University official policy holds that academic integrity, including avoiding plagiarism, is critically important. Each student is responsible for being familiar with the standards and policies outlined in the Friedman School's Policies and Procedures manual: <http://nutrition.tufts.edu/student/documents>. It is the responsibility of the student to be aware of, and comply with, these policies and standards. In accordance with Tufts University's policy on academic misconduct, violations of standards of academic conduct will be sanctioned by penalties ranging from grade reduction or failure on an assignment; grade reduction or failure of a course; up to dismissal from the school, depending on the nature and context of any infraction: <http://uss.tufts.edu/studentaffairs/judicialaffairs/Academic%20Integrity.pdf>.

The grading philosophy on misconduct is that the material you submit to show mastery of the course material must be your own work. We take proper academic conduct seriously, as it is unfair to other students when academic misconduct is not addressed. The policy followed here is quite simple: any proven plagiarism or cheating will result in a failing grade for the assignment and the entire course, and all violations will be reported to the Dean for Academic Affairs.

Communication: The instructors are available for office hours by Skype to answer any questions students have during the course. You will receive email replies within a day, but please do not expect instant replies. Please also feel free to contact other classmates for help on assignments or if you have questions.

Course assignments and grading criteria:

<u>Assignment</u>	<u>Grading weight</u>
Homework assignments (10% each)	50%
Discussion post assignment	10%
Participation in online discussions	10%
Final Exam	30%

Homework assignments: Students will complete 5 homework assignments, each worth 10% of the total course grade. These assignments will require students apply and practice the concepts and ideas discussed during lectures. Assignments will include but not be limited to: multiple choice, short answer, fill in the blank, simple mathematical calculations, and true/false questions. They will sometimes require students to use economic diagrams to illustrate economic concepts related to food consumption and consumer choice, as well as supply and demand systems. Students can hand draw and scan these diagrams or use programs like OmniGraphSketcher, GoogleDraw, Powerpoint, or Keynote to draw these diagrams. More details and instructions on homework assignments will be provided during the introductory lecture of the course and before assignments are due.

Discussion posts: Substantive discussion is a critical element contributing to understanding and integration of the concepts and topics covered in this course. To foster discussion during the course instructors will provide a prompt based on the week’s lecture and reading material. Two to three students will be selected as “Discussion Leaders” to each write a **400-word** response to this prompt using peer reviewed or grey literature (i.e. periodicals, reports from government or non-government agencies). There will be four discussion prompts total during the course. Students should use keywords and concepts from that week’s lecture material to write their response. The remaining students in the class will then respond to what Discussion Leaders have posted in a thoughtful manner. A grading rubric is provided here for both Discussion Leader assignments and for responses to these posts to help guide students in crafting meaningful posts and responses.

Discussion leader post grading rubric:

Components	Expected Level of Competence	Moving Towards Expected Level of Competence	Below Expected Level of Competence
Submission posted on time	Complete and submit memo on time.	Post is submitted late.	Post is not submitted.
Style guidelines	Adheres to word limit. Writing is clear and succinct. Demonstrates care in writing, which may be informal, but thoughtful. The post has a smooth flow of ideas and is well organized and logical.	Does not adhere to page limit. Writing lacks clarity in some places. Flow of ideas could use some improvement.	Does not adhere to page limit. Writing lacks clarity throughout. Flow of ideas is rough. Post is not well organized.
Demonstrates careful reading & listening to lecture material	Demonstrates serious contemplation of the readings and lectures. Shows original thought that goes beyond the obvious.	Demonstrates reading was completed/lecture was watched, but relies primarily on summary rather than integration of information.	Gives little indication that readings/lecture viewing was completed.
Application of theories/concepts to consumer behavior	Articulates strengths and limitations of theory’s application to professional context. Elaborates statements with accurate explanations, reasons, or evidence.	Provides general discussion of theory’s application but lacks thoughtful critique. Takes a position with respect to theory application but with little evidence or explanation. Examples to support points are not well integrated or not effective.	Missing or limited theory application. Little evidence used to support points or evidence is out of context.

Student discussion post responses rubric:

Components	Expected Level of Competence	Moving Towards Expected Level of Competence	Below Expected Level of Competence
Quantity & timeliness of contributions	Reads the messages in the discussion area. Contributes 4 constructive responses to discussion posts over the entire course.	Reads some of the messages in the discussion area. Contributes 2-3 construction responses to discussion posts over the entire course.	Does not read messages in discussion area and does not contribute any constructive responses to discussion posts over the course of the semester.
Quality & relevance of response	Responses are concise, clear, and thoughtful. Responses contribute something original or build upon what has been said; they are not repetitious.	Responses are related to the discussion posts, but messages only address peripheral issues. Repetition of questions or points made by others.	Responses do not relate to the discussion posts. Makes, short, irrelevant remarks or responds with minimum effort.
Interaction with others	Questions are raised to stimulate discussion. Encourages a variety of viewpoints. Responds to questions and comments from others. When disagreeing, does so respectfully.	Participation is evident, but posts do not involve others or encourage others to think critically.	Rarely raises questions to stimulate discussion and rarely responds to the questions and comments raised by others. Comments are unconstructive or non-courteous.

Final exam: The final exam will assess mastery of specific content relevant to material presented during the course. It will be a two-hour timed exam during the last week of the course. Questions will be in the form of multiple choice, short answer, fill in the blank, long answer, simple mathematical calculations, and true/false questions. This exam will be administered through Canvas and will require computer and internet access in order to be completed. Students should ensure they have reliable access to a computer and the Internet during the final exam week. If for some reason you need scheduling accommodations for the final exam please email the instructors as soon as you are aware of any issues, and no later than the end of week 6 of the course.

Assignments and submission instructions: All homework assignments should be uploaded to Canvas in your assignment dropbox by the specified deadline. Discussion posts and responses are to be posted to the class discussion forum on Canvas. Assignments received after their deadline will not be accepted or graded unless an extension is approved in advance. Students who are unable to complete an assignment, discussion post/response, or exam on time for any reason should notify either Anaya or Sean by email or phone call as soon as possible, and in any case at least 48 hours prior to the deadline, with a brief explanation for why the extension is needed. Deadlines for each assignment are listed in the Course Calendar below.

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

COURSE CALENDAR

NOTE: This schedule is subject to modifications at the discretion of the instructors

DATES	WEEK	TOPIC	ASSIGNMENTS & ACTIVITIES	ASSIGNMENT/ACTIVITY DUE DATES	LECTURER and/or GUEST SPEAKER
May 23 – May 27	1	Introduction to course and Overview of Food System Economics	Readings	None	Sean Cash/Anaya Hall
May 28 – June 3	2	Defining sustainability and environmental impacts of the food system: a consumer perspective	Readings & Meet the group via Webex	Webex discussion on Wednesday 5/30 7:00pm – 7:45pm EDT	Sean Cash
June 4 – 10	3	Consumer behavior: marketing perspective	Readings & Homework #1	Due Friday 6/8 11:59pm EDT	Anna McAlister
June 11 – 17	4	Consumer behavior: economic perspective	Readings & Discussion post #1	Post due 6/14, 11:59pm EDT. Responses due 6/17, 11:59pm	Sean Cash
June 18 - 24	5	Sustainability characteristics in food products	Readings & Homework #2	Due Friday 6/22 11:59pm EDT	Sean Cash
June 25 - July 1	6	Patterns in U.S. food consumption in the context of sustainability	Readings & Discussion post #2	Post due 6/28 11:59pm EDT. Responses due 7/1 11:59pm EDT.	Sean Cash
July 2 – 8	7	Industry perspective on consumer demand for sustainability in food products	Readings		Sean Cash; Tai Ullman (N13), Land o' Lakes; Christina Skonberg (N17), Annie's Homegrown;
July 9 – 15	8	Sustainable food labeling, marketing, and advertising	Readings & Homework #3	Due Friday 7/13 11:59pm EDT	Sean Cash Rebecca Boehm
July 16 – 22	9	Empirical findings: consumer willingness to pay for sustainable food products	Readings & Discussion post #3	Post due 7/19, 11:59pm EDT. Responses due 7/22, 11:59pm EDT.	Sean Cash Monika Hartmann
July 23 – 29	10	U.S. food policies: barriers and opportunities for promoting sustainable food products	Readings & Homework #4	Due Friday 7/27 11:59pm EDT	Sean Cash Parke Wilde
July 30 – August 5	11	International perspectives: successful government efforts to promote sustainable food products	Readings & Discussion post #4	Post due 8/2, 11:59pm EDT. Responses due 8/5, 11:59pm EDT.	Sean Cash, Barbara Seed , & Rianne M. Weggemans
August 6 – 12	12	Behavioral economics: promoting sustainability through nudges	Readings & Homework #5	Due Friday 8/10 11:59pm EDT.	Stacy Blondin Sean Cash David Just
August 13 – 19	13	Food Sustainability, Cost, and Nutrition – How can consumer diets be optimized?	Readings		Student presentations
August 20 – 26	14	Review and Final exam	Final Exam	Posted on Monday 8/20 at 9:00am EDT. Due Wednesday 8/22 at 11:59pm EDT.	Sean Cash/Anaya Hall

COURSE TOPICS, LEARNING OBJECTIVES, READINGS AND ASSIGNMENTS

NOTE: This schedule is subject to modifications at the discretion of the instructors

Week 1: Introduction to course and Overview of Food System Economics

Lecture

- Introductory remarks – Sean Cash & Anaya Hall
- Economics and the food system – Sean Cash

Learning objectives

- Understand Tufts University academic conduct.
- Understand the requirements of the course from start to finish.
- Differentiate between the colloquial use of economics to refer to the financial aspects of a system or problem and the disciplinary toolbox of economics.
- Define basic concepts of microeconomic analysis, particular the concept of optimizing under constraints and market failures.

Required readings

- Read the Tufts University academic conduct policy (hyperlink in syllabus, above)
- Read the entire course syllabus
- Chapter 7, “Food System Economics, By Rebecca L. Boehm, Sean B. Cash, and Larissa S. Drescher, in Introduction to the U.S. Food System, edited by Roni Neff.

Supplementary readings

- Tilman, D., and Clark, M. 2014 Global diets link environmental sustainability and human health. *Nature*, 515: 518 – 523.
- Bajzelj, B., Richards, K.S., Allwood, J.M., Smith, P., Dennis, J.S., Curmi, E., Gilligan, C.A. 2014. Importance of food-demand management for climate mitigation. *Nature Climate*. Volume 4.

Assignments

- None

Week 2: Defining sustainability and the environmental impacts of the food system from the consumer point of view

Lecture

- Defining sustainability with an economics lens (15 minutes) – Sean Cash
- Environmental impacts of the food system: a life cycle perspective (20 minutes) – Sean Cash

Learning objectives

- Define sustainability using economic principles and vocabulary.
- Define life cycle assessment and understand how it is used to assess environmental impacts in the food system.
- Identify the relative share of environmental impact that occur at each major stage of the food system pre-consumer (production, transportation, processing, marketing/retail)

- Understand how economic input-output data can be used to estimate environmental impacts of consumer dietary patterns.

Required readings

- Heller, M.C., Keoleian, G.A., Willett, W.C. 2013. Toward a Life Cycle-Based, Diet-level Framework for Food Environmental Impact and Nutritional Quality Assessment: A Critical Review. *Environmental Science and Technology*, 47: 12632 – 12647.
- Weber, C. and Matthews, S. 2008. Food-miles and the Relative Climate Impacts of Food Choices in the United States. *Environmental Science and Technology*, 42: 3508-3513.
- Chapter 34, “Environmental Concerns in Food Consumption”, by Mario F. Teisl, in the *Oxford Handbook of The Economics of Food Consumption and Policy*, edited by Jayson L. Lusk, Jutta Roosen, and Jason F. Shogren, 2011.

Supplementary readings

- Cederberg, C. and Mattsson, B. 2000. Life cycle assessment of milk production – a comparison of conventional and organic farming. *Journal of Cleaner Production*. 8: 49 – 60.

Assignments

- Webex discussion to meet students and instructors: Wednesday 5/30, 7:00pm – 7:45pm EDT.

Week 3: Consumer behavior: The marketing perspective

Lecture

- Consumer behavior 101: a marketing/psychology perspective (10 minutes) – Anna McAlister, Endicott College and Michigan State University
- Consumer perceptions, learning, and decision making: influence on food choices (15 minutes) – Anna McAlister
- Empirical findings: consumer behavior in the food retail environment (15 minutes) – Anna McAlister

Learning objectives

- Understand the basic theories and principles of consumer psychology used to market products to consumers, including models of market segmentation, consumer perception, and consumer decision-making.
- Apply these models and principles of consumer psychology to understand how food companies can market sustainable food products to consumers.
- Analyze empirical findings on consumer behavior in the food retail environment and describe their implications for sustainable food demand.

Required readings

- Chapter 1, Schiffman, L. G., & Kanuk, L. L. 2010. *Consumer Behavior, 10e*. NJ: Prentice Hall.

Supplementary readings

- Vermier, I. and W. Verbeke. 2006. Sustainable Food Consumption: Exploring the Consumer “Attitude – Behavior Intention” Gap. *Journal of Agricultural and Environmental Ethics*. 19: 169 – 194.

- Verain, M.C.D., Bartels, J., Dagevos, H., Sijtsema, S.J., Onwezen, M.C. 2012. Segments of sustainable food consumers: A literature review. *International Journal of Consumer Studies*. 36: 123 – 132.

Assignments

- Homework #1 due Friday 6/8 11:59pm EDT

Week 4: Consumer behavior: An economic perspective

Lecture

- Consumer decision making (15 minutes) – Sean Cash
- Comparative statics with demand functions (10 minutes) – Sean Cash
- Using elasticities to predict consumer demand for food products (15 minutes) – Sean Cash

Learning objectives

- Understand constrained utility maximization with respect to food consumption.
- Define key features of the utility function
- Define the law of demand and describe key features of demand functions
- Describe the price elasticity of demand and cross-price elasticity of demand for various food products
- Describe substitute and complimentary goods
- Describe income elasticity of demand for various food products, and define Engel's law and its importance with respect to food consumption
- Define normal, inferior, and luxury goods

Required readings

- Andreyeva, T., Long, M.W., Brownell, K.D. 2010. The Impact of Food Prices on Consumption: A Systematic Review of research on the Price Elasticity of Demand for Food. *American Journal of Public Health*, 100(2): 216 – 222.
- Epstein, L.H, Jankowiak, N, Nederkoorn, C., Raynor, H.A., French, S.A., Finkelstein, E. 2012. Experimental research on the relation between food price changes and food-purchasing patterns: a targeted review. *American Journal of Clinical Nutrition*. 95: 789 – 809.

Supplementary readings

- Excerpts Chapter 10 and 11 Krugman, P. and Wells, R. *Economics*. On Reserve in Tufts Library system and widely available in other library systems.

Assignments

- Discussion post #1 due 6/14, 11:59pm EDT. Responses due 6/17, 11:59pm EDT.

Week 5: Sustainability characteristics in food products and valuation methods

Lecture

- Asymmetric information and credence goods (15 minutes) – Sean Cash
- Stated Preference methods to determine consumer interest and WTP for credence attributes in food products (15 minutes) – Sean Cash

- Revealed preference methods to determine consumer interest and WTP for credence attributes in food products (15 minutes) – Sean Cash

Learning objectives

- Define information asymmetry and credence goods, and describe how these concepts relate to the challenges of assuring environmental quality in market settings
- Explain the rationale for using certification schemes to overcome the problems posed by information asymmetry
- Identify the relative merits of addressing environmental quality issues with market-based vs. regulatory settings
- Describe key concepts in consumer and producer behavior as they relate to the potential for success of market-based approaches
- Identify the importance of stated vs. revealed preference measures in assessing consumer interest in green and ethical products

Required Readings

- Chapter 4, “Valuing the Environment: Methods” in Environmental and Natural Resource Economics, Tenth Edition, by Tom Tietenberg and Lynne Lewis, Pearson.
- Chapter 35, “Ethical Considerations and Food Demand, by Maria L. Loureiro, in The Oxford Handbook of the Economics of Food Consumption and Policy by Jayson L. Lusk, Jutta Roosen, and Jason F. Shogren, 2011
- Grunert, K.G., Hieke, S., Wills, J. 2014. Sustainability labels on food products: Consumer motivation, understanding, and use. Food Policy 44: 177 – 189

Supplementary material

- Watch: Follow the Frog video by the Rainforest Alliance. Available online here: <https://www.youtube.com/watch?v=3ilkOi3srLo>

Assignments

- Homework #2 due 6/22 11:59pm EDT

Week 6: Patterns in U.S. food consumption in the context of sustainability

Lecture

- Trends in U.S. consumer demand for sustainable food purchases (30 minutes) – Sean Cash

Learning objectives

- Analyze the economic drivers of sustainable food purchases by U.S. consumers
- Examine trends in U.S. consumer demand for sustainable food products
- Determine how macroeconomic conditions affect consumer demand for food products, including those with sustainability attributes

Required readings

- Greene, C. “Growth patterns in the U.S. Organic Industry”, in Amber Waves, United States Department of Agriculture Economic Research Service, October 24, 2013.
- Low, S.A., Adalja, A., Beaulieu, E., Key, N., Martinez, S., Melton, A., Perez, A., Ralston, K., Stewart, H., Suttles, Vogel, S., Jablonski, B.B.R. 2015. Trends in U.S. Local

and Regional Food Systems. A Report to Congress. United States Department of Agriculture Economic Research Service.

- Miller, P.E., Reedy, J., Kirkpatrick, S.I., Krebs-Smith, S.M. 2014. The United States Food Supply is not Consistent with Dietary Guidance: Evidence from an Evaluation Using the Healthy Eating Index-2010. *Journal of the Academy of Nutrition and Dietetics*.

Supplementary readings

- Todd, J. and Mentzer Morrison, R. “Less Eating Out, Improved Diets, and More Family Meals in the Wake of the Great Recession”, in *Amber Waves*, United States Department of Agriculture Economic Research Service, March 4, 2014.
- Whole Foods’ John Mackey on Capitalism’s Moral Code. *Harvard Business Review*, available online: <https://hbr.org/2013/01/whole-foods-john-mackey-on-cap/>
- “The Shake Shack Economy”, by James Surowiecki, *The New Yorker*, January 26th, 2015.
- “How Chipotle Changed American Fast Food Forever”, Denise Lee Yohn, *Fast Company*. Available online: <http://www.fastcompany.com/3027647/lessons-learned/how-chipotle-changed-american-fast-food-forever>

Assignments

- Discussion post #2 due 6/28 11:59pm EDT. Responses due 7/1 11:59pm EDT.

Week 7: Industry perspective on sustainability in the food supply chain

Lecture

- Challenges and opportunities for industry supply of sustainability for consumers (15 minutes) – Tai Ullman (N13), Sustainability Specialist, Land o’ Lakes
- Growing Ethos 2.0: Supply chain sustainability at sweetgreen – Orion Kobayashi, (N17), West Coast Value Chain Coordinator, sweetgreen
- Sustainability at Annie’s– Christina Skonberg, (N17), Senior Sustainability Analyst, Annie’s Homegrown

Learning objectives

- Understand how food companies/industry respond to consumer demand for sustainability and credence attributes in food products.
- Analyze some of the challenges that industry face in providing sustainability/credence attributes in food products for consumers.
- Describe how the economic forces of competition and others play a role in determining the supply of sustainable food products to consumers.
- Consider the tradeoffs of food product sustainability including nutrition and taste.

Required readings

- Haanaes, K., Michael, D., Jurgens, J., Rangan, S. 2013. Making Sustainability Profitable, *Harvard Business Review*. Available online at: <https://hbr.org/2013/03/making-sustainability-profitable/ar/1>.
- Newman, G.E., Gorlin, M., Dhar, R. 2014. When Going Green Backfires: How Firm Intentions Shape the Evaluation of Socially Beneficial Product Enhancements. *Journal of Consumer Research*. 41(3): 823-839.

- Keyserlingk, M.A.G. von, Martin, N.P., Kebreab, E., Knowlton, K.F., Grant, R.J., Stephenson, M., Sniffen, C.J., Harner, J.P., Wright, A.D., Smith, S.I. 2013. Invited review: Sustainability of the U.S. dairy industry. *Journal of Dairy Science* (part of the American Dairy Science Association), 96: 5405 – 5425.

Assignments

- No assignment due

Week 8: Sustainable food labels, marketing, and advertising

Lecture

- Proliferation of sustainability labels in the food marketplace and implications for consumer interest/value (10 minutes) - Sean Cash
- Consumer valuation of ecosystem services in food products (15 minutes) – Rebecca Boehm, University of Connecticut
- Kosher: Lessons from Private Regulation for Public Policy (32 minutes) – Timothy Lytton, Albany Law School

Learning objectives

- Describe the market failure caused by information asymmetry.
- Understand how labeling can be used to overcome this failure.
- Define “label confusion,” characterize the extent to which it may exist in the current market for food products, and define the challenges posed by it.
- Define “ecosystem services” and describe the market response to the provision of ecosystem-service-related labeling schemes in food products.

Required readings

- Chapter 10, “Promotional Marketing: a Driver of the Modern Food System”, by Corinna Hawkes, in *Introduction to the U.S. Food System*, edited by Roni Neff, 2014.
- Economist articles, “Good food” and “Voting with your trolley” (2006)
- Clinton, Patrick, “How “free-from” and other food labels actually affect us” (September 26th, 2017) *New Food Economy*. <https://newfoodeconomy.org/free-food-labels-actually-affect-us/>

Supplementary readings

- Harbaugh, R., Maxwell, J.W., Roussillon, B. 2011. Label Confusion: The Groucho Effect of Uncertain Standards. *Management Science* 57(9): 1512 – 1527.
- Costa-Font, M. Gil, J.M., Traill, W.B., 2008. Consumer acceptance, valuation of and attitudes towards genetically modified food: Review and implications for food policy. *Food Policy*. 33: 99 – 111.

Assignments

- Homework #3 due 7/13 11:59pm EDT

Week 9: Empirical findings: consumer willingness to pay for sustainable food products

Lecture

- Consumer Willingness to Pay for Fair Trade Coffee (20 minutes) – Sean Cash
- Cause Related Marketing (10-15 minutes) – Monika Hartmann, Bonn University

Learning objectives

- Describe the relationship between willingness-to-pay, price, and value
- Identify and understand key methods for valuing non-market goods and services
- Describe the importance of sensitivity analysis in conducting valuation studies
- Identify and discuss key criticisms of non-market valuation and its use in social decision-making

Required readings

- Langen, N., Grebitus, C., Hartmann, M. 2013. Success factors in Cause-Related Marketing in Germany. *Agribusiness*, 29(2): 207 – 227.
- Norwood, B., Lusk, J., *Compassion by the Pound: The economics of farm animal welfare*. Chapter 1: Economics and the Farm Animal Welfare Debate (2011).
- Arnot, C., Boxall, P.C., Cash, S.B. 2006. Do Ethical Consumers Care About Price? A Revealed Preference Analysis of Fair Trade Coffee Purchases. *Canadian Journal of Agricultural Economics*, 54(2006): 555-565.

Supplementary readings

- Eikenberry, A. (2009). The Hidden Cost of Cause Marketing. *Stanford Social Innovation Review*, Summer 2009: 51-55
- Varadarajan P. R. and Menon, A. (1988): Cause-Related Marketing: A Co-alignment of Marketing Strategy and Corporate Philanthropy. *Journal of Marketing*, 52 (3): 58-74.

Assignments

- Discussion post #3 due 7/19, 11:59pm EDT. Responses due 7/22, 11:59pm EDT.

Week 10: U.S. food policies: barriers and opportunities for promoting sustainable food choices

Lecture

- Overview of the U.S. government's role in dietary guidance (15 minutes) – Sean Cash
- Government Checkoff Programs (15 minutes) – Parke Wilde, Friedman School

Learning objectives

- Identify economic incentives that drive government guidance of food choices
- Analyze policy instruments used to guide Americans toward healthy/sustainable food choices
- Understand the political opportunities and barriers that exist for promoting sustainability in U.S. dietary guidance

Required readings/materials

- Merrigan, K., Griffin, T.S., Wilde, P., Robien, K., Goldberg, J., Dietz, W. Designing a sustainable diet. *Science Policy Forum*. October 10, 2015.
- Wilde, P. 2006. Federal Communication about Obesity in the Dietary Guidelines for Americans and Checkoff Programs. *Obesity* 14: 967-973.

Supplementary readings/materials (highly recommended!)

- Wilde, P. “Should federal dietary guidelines address environmental sustainability issues?” U.S. Food Policy blog. September 23, 2013. Available online: <http://usfoodpolicy.blogspot.com/2013/09/should-federal-dietary-guidelines.html>
- Watch: Parke Wilde on the Economics of Dietary Guidance and Environmental Sustainability, Institute of Medicine, September 22, 2013. Available online: <https://www.youtube.com/watch?v=gtxpFQvCbcA>
- Watch: Kate Clancy on Sustainability and Dietary Guidance. Available online at: <http://videocast.nih.gov/summary.asp?file=18227&bhcp=1>

Assignments

- Homework #4 due Friday 7/27 11:59pm EDT

Week 11: International issues and perspectives: Successful government efforts to promote sustainable food products, and opportunities/barriers to marketing sustainable products globally

Lecture

- Sustainability and Dietary Guidance: The Netherlands (15 minutes) – Rianne Weggemans, Health Council of the Netherlands
- Sustainability and Dietary Guidance: Qatar (15 minutes) – Barbara Sead, City University of London
- Global trade as a barrier/opportunity for promotion of sustainable food products – (10 minutes) – Sean Cash

Learning objectives

- Analyze how other country’s governments promote sustainability in diets
- Learn about marketing strategies used by non-U.S. based companies to promote sustainable food choices among consumers
- Identify opportunities and barriers to promote sustainable food products on the global scale

Readings

- Health Council of the Netherlands. 2011. Guidelines for a healthy diet: the ecological perspective. Chapters 4, 5 and Executive Summary only. Available online at: <http://www.gr.nl/en/publications/gezonde-voeding/guidelines-for-a-healthy-diet-the-ecological-perspective>
- Harrison-Dunn, A-R., “EU labeling law adds impetus to the sustainable palm drive” on Food Navigator, December 2, 2014.
- Watch [this video](#) on Intermarche’s, a French supermarket chain, promoting their “Inglorious Fruits and Vegetables” to reduce food waste.

Assignments

- Discussion post #4 due 8/2, 11:59pm EDT. Responses due 8/5, 11:59pm EDT.

Week 12: Behavioral economics: food waste as a case study for using nudges to promote sustainability

Lecture

- Food Waste in the School – Stacy Blondin, Harvard School of Public Health
- Overview of Behavioral Economics (20 minutes) – Sean Cash
- Empirical findings: behavioral economics in the school lunchroom and in the supermarket (15 minutes) – David Just, Cornell University

Learning objectives

- Discuss strengths and limitations of traditional economic analysis of the food consumer.
- Define behavioral economics, heuristics, and libertarian paternalism
- Define some of the key behavioral economic theories of food consumption and discuss how these theories can be used to address public health and environmental concerns related to food consumption.
- Apply behavioral economics concepts to identify ways to reduce consumer-level food waste

Required readings

- Cash, Sean, B., and Christiane Schroeter. 2010. “Behavioral Economics: A New Heavyweight in Washington?” *Choices Magazine* 25 (3).
<http://www.choicesmagazine.org/magazine/article.php?article=142>
- Buzby, J.C., Wells, H.F., Hyman, J. 2014. The Estimated Amount, Value, and Calories Postharvest Food Losses at the Retail and Consumer Levels in the United States. United States Department of Agriculture Economic Research Service, Economic Information Bulletin Number 121.
- Quested, T.E., Marsh, E., Stunell, D., Parry, A.D. 2013. Spaghetti soup: The complex world of food waste behaviors. *Resources, Conservation and Recycling*, 79: 43-15.

Supplementary readings

- Price, Joe and Riis, Jason. Behavioral Economics and the Psychology of Fruit and Vegetable Consumption: A Scientific Overview. 2012. Produce for Better Health Foundation, 2012.
- Graham-Rowe, E., Jessop, D.C., and Sparks, P. 2014. Identifying motivations and barriers to minimizing household food waste. *Resources, Conservation and Recycling*, 84: 15-23.
- Papargyropoulou, E. Lozano, R., Steinberger, J.K., Wright, N., Ujang, Z.b. 2014. The food waste hierarchy as a framework for the management of food surplus and food waste. *Journal of Cleaner Production* 76: 106-115.
- Neff, R., Spiker, M.L., Truant, P.L., 2015. Wasted Food: U.S. Consumers’ Reported Awareness, Attitudes, and Behaviors. *PlosOne*.

Assignments

- Homework #5 due Friday 8/10 11:59pm EDT.

Week 13: Food Sustainability, Cost, and Nutrition – How can consumer diets be optimized?

Lecture

- Linking sustainability, cost, and health: What is the optimal diet? – Student Presentations

Learning Objectives

- Understand the trade-offs made between sustainable, cost and the nutritional quality in consumer dietary patterns.
- Analyze these dietary trade-offs using economic principles and concepts
- Identify policies or other mechanisms that can be used to help consumers optimize their dietary patterns to address sustainability, cost, and nutrition.

Required readings

- Chapter 18 “Intervening to Change Eating Patterns: How can Individuals and Societies Effect Lasting Change through Their Eating Patterns?” by Linden Thayer, Molly DeMarco, Larissa Calancie, Melissa Cunningham Kay and Alice Ammerman, in Introduction to the U.S. Food System, edited by Roni Neff, 2014.

Supplementary readings

- Heller, M.C. and Keoleian, G.A. 2014. Greenhouse Gas Emission Estimates of U.S. Dietary Choices and Food Loss. *Journal of Industrial Ecology*, Volume 0 Number 0.
- Drewnowski, A., Rehm, C.D., Martin, A., Veger, E.O., Voinnesson, M., Imbert, P. 2014. Energy and nutrient density of foods in relation to their carbon footprint. *American Journal of Clinical Nutrition*.101: 184-191.
- MacDiarmid, J.I., Kyle, J., Horgan, G.W., Loe, J., Fyfe, C., Johnstone, A., McNeill, G. 2012. Sustainable diets for the future: can we contribute to reducing greenhouse gas emissions by eating a healthy diet? *American Journal of Clinical Nutrition*.
- Aschemann-Witzel, J. 2015. Consumer perception and trends about health and sustainability: trade-offs and synergies of two pivotal issues. *Current Opinion in Food Science*.

Assignments

- Begin preparing for final exam

Week 14: Wrap-up and final exam review

Lecture

- Review session via Skype for whole class – Anaya Hall

Learning objectives

- Review material presented throughout entire class
- Test student’s knowledge of material presented during the class

Readings

- None

Assignments

- Review session (date TBD)

- Final exam Posted on Monday 8/20 at 9:00am EDT, Due Wednesday 8/22 at 11:59pm EDT.

This reading list is subject to modifications at the discretion of the instructor.