

NUTC 263 -Sustainability and the Food Consumer: Reducing Environmental Impacts Through Consumer Choice Summer 2023

Welcome to NUTC 263!

We're excited to share this course with you and hope that you enjoy the material as much as we do. This course will cover a wide range of topics related to sustainability and the food consumer, including concepts related to economics, sustainability, consumer behavior, food marketing, government policy, and more. There are no prerequisites to enroll, so if you have not previously taken economics or marketing courses, you'll learn everything you need to know in the readings and lectures for this class.

We value and embrace diversity and individual differences of all kinds in the classroom, and work to create a welcoming learning space for all students, including those from groups that have been traditionally marginalized. In the online discussions for this class, we especially welcome the diverse perspectives and experiences that you each bring to your studies, which result in a deeper learning experience for all.

If you feel like your performance in class is being impacted by your experiences outside of class, please don't hesitate to let us know. There [are also confidential resources](#) available at Tufts that can assist you in managing these challenges.

Important Information:

Class Meetings: Online

Instructor: Sean B. Cash, PhD (He/Him/His)
Bergstrom Foundation Professor of Global Nutrition
Associate Professor, Agriculture, Food, and Environment Program
Friedman School of Nutrition Science and Policy, Tufts University
Sean.Cash@tufts.edu or +1 617-636-6822

Teaching Asst.: Leah Costlow (She/Her/Hers)
PhD student, Food and Nutrition Policy and Programs
Friedman School of Nutrition Science and Policy, Tufts University
Leah.Costlow@tufts.edu

Semester Hour Units: 3

Prerequisites: None

Course Communications:

Please use email to contact Sean and Leah with any questions or to set up meetings. We will use Canvas announcements to send out messages to all students enrolled in the course, so please make sure you have Canvas notifications set up in your account settings (described [here](#) by Tufts Ed Tech). Sean and Leah are available for office hours by Zoom to answer questions students have during the course. You may also contact us over email to address questions or set up an appointment. 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.

Office Hours:

Sean and Leah are each available for office hours by appointment. Please contact us to schedule a meeting if you would like to discuss anything about the course, including but not limited to readings, homework assignments, and career development.

Instructor: By appointment. Please email Sean to set up a time.
Meetings on Zoom (preferred) or by phone.
Zoom Personal Meeting Room: <https://tufts.zoom.us/j/6552141652>

Teaching Asst.: By appointment. Please email Leah to set up a time.
Meetings on Zoom (preferred) or by phone.
Zoom Personal Meeting Room: <http://tufts.zoom.us/my/lmcostlow>

Course Summary:

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 Goals:

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.

Texts or 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](#) or on Amazon.com. The book is also available in [eBook format through the Hirsch Library](#).

How to be Successful in this Course:

During this online course, we ask that you stay on schedule with assigned readings, lectures, and assignments. If you have any questions or face difficulties related to the course content, please reach out to Sean and/or Leah – we are happy to meet with you and help you succeed in learning and engaging with the material. We are also always happy to help you find solutions (extensions, etc.) if you are struggling with a busy schedule but reach out to us *in advance*.

Assignments and Grading:

Assignment	Grading weight
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.

Grading Range:

A passing grade in the course is B- or better. Points will be awarded for each assignment, and an overall course score will be calculated from the weights shown above. Your overall course score will then be translated into a letter grade on the basis of “natural breaks” in the distribution of class grades. The resulting grade distribution will be as least as generous as the typical grading distribution shown below (i.e., any adjustments made on the basis of “natural breaks” will only serve to increase, and never decrease, a final course grade).

Typical grading distribution (subject to revision during the course):

A	> 94%
A-	90 - <94%
B+	87 - <90%
B	84 - <87%
B-	80 - <84%

Instructions for Submission of Assignments and Exams:

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 Sean or Leah by email 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.

Academic Conduct:

You are responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's Policies and Procedures Handbook located at this web page: <https://nutrition.tufts.edu/about/policies-and-procedures>, as well as Tufts University's policies (<https://students.tufts.edu/community-standards/support-resources/academic-integrity-resources>). This includes understanding and avoiding plagiarism, which is defined as the unacknowledged use of someone else's published or unpublished work. It is the responsibility of each student to understand and comply with academic integrity standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Accommodation of Disabilities:

We will do our best to ensure each of you has the resources you need to succeed. 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.

Tufts Zoom:

This course is fully online and asynchronous. Zoom will be used only for office hours and for our online meet-and-greet in Week 2. Please see the first page of this syllabus for Sean's and Leah's Zoom room links. We will share the Zoom link for the meet-and-greet in a Canvas announcement.

Course Overview:

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 24 - 27	1	Introduction to course and Overview of Food System Economics	Readings	"Getting to know you" Survey due Wednesday 5/31, 11:59pm EDT	Sean Cash
May 28 – June 3	2	Defining sustainability and environmental impacts of the food system: a consumer perspective	Readings & Meet the group via Zoom	Zoom meet-and-greet on Wednesday 5/31, 7:00pm – 7:45pm EDT	Sean Cash
June 4 – 10	3	Consumer behavior: marketing perspective	Readings & Homework #1 <u>Course Objectives:</u> 2, 3	Due Friday 6/9, 11:59pm EDT	Anna McAlister
June 11 - 17	4	Consumer behavior: economic perspective	Readings & Discussion post #1 <u>Course Objectives:</u> 2, 4	Post due Thursday 6/15, 11:59pm EDT. Responses due Sunday 6/18, 11:59pm	Sean Cash
June 18 - 24	5	Sustainability characteristics in food products	Readings & Homework #2 <u>Course Objectives:</u> 1, 2, 3, 4	Due Friday 6/23 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 <u>Course Objectives:</u> 1, 2, 5, 7	Post due Thursday 6/29 11:59pm EDT. Responses due Sunday 7/2 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; Lisa Drake, Stonyfield
July 9 – 15	8	Sustainable food labeling, marketing, and advertising	Readings & Homework #3 <u>Course Objectives:</u> 2, 3, 6	Due Friday 7/14 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 <u>Course Objectives:</u> 2, 4, 5	Post Thursday due 7/20, 11:59pm EDT. Responses due Sunday 7/23, 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 <u>Course Objectives:</u> 1, 2, 5	Due Friday 7/28 11:59pm EDT	Sean Cash Parke Wilde Nicole Tichenor Blackstone
July 30 – August 5	11	International perspectives: successful government efforts to promote sustainable food products	Readings & Discussion post #4 <u>Course Objectives:</u> 1, 2, 5, 7	Post due Thursday 8/3, 11:59pm EDT. Responses due Sunday 8/6, 11:59pm EDT.	Sean Cash Barbara Seed Rianne M. Weggemans

August 6 – 12	12	Behavioral economics: promoting sustainability through nudges	Readings & Homework #5 <u>Course Objectives:</u> 2, 6, 7	Due Friday 8/11 11:59pm EDT.	Alexandra Stern 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 <u>Course Objectives:</u> 1-7	Posted on Monday 8/21 at 9:00am EDT. Due Wednesday 8/23 at 11:59pm EDT.	Sean Cash/Leah Costlow

Topics, Assignments, and Learning Objectives for Each Class Session:

NOTE: This schedule is subject to modifications at the discretion of the instructors; please see the relevant module for each week for updated reading lists

Week 1, May 24-27: Introduction to course and Overview of Food System Economics

Lecture

- Introductory remarks – Sean Cash & Leah Costlow
- 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.
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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

- "Getting to know you" Survey due Wednesday 5/31, 11:59pm EDT
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Week 2, May 28 – June 3: 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.
- 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

- Heller, M. C., & Keoleian, G. A. (2018). *Beyond Meat’s Beyond Burger Life Cycle Assessment: A detailed comparison between a plant- based and an animal-based protein source* (Report No. CSS18-10). Center for Sustainable Systems University of Michigan.
- 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.

Assignments

- Zoom discussion to meet students and instructors: Wednesday 5/31, 7:00pm – 7:45pm EDT. Meeting link posted to Zoom tab on Canvas, or else join here:
<https://tufts.zoom.us/j/94601300089?pwd=Um10aU43U3g3ZTdOMnR0VXBuMIN6QT09>
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Week 3, June 4 - 10: 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 6/9, 11:59pm EDT
 - **Course objectives:** 2, 3

Week 4, June 11 - 17: 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
- How the pandemic has changed consumer food purchases in retail settings: Panel Discussion, “COVID-19 impacts on agriculture, food systems and nutrition”. Friedman School Speaker Series, April 22, 2020. (~18 minutes; 16:50-35:10) – 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 complementary 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

- Panel Discussion, “COVID-19 impacts on agriculture, food systems and nutrition”. Friedman School Speaker Series, April 22, 2020. (minutes) – Will Masters (1:35-16:50), Norbert Wilson (35:10-51:03), Q&A (51:03-1:12)
- 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 Thursday 6/15, 11:59pm EDT. Responses due Sunday 6/18, 11:59pm EDT.
 - **Course objectives:** 2, 4

Week 5, June 18 – 24: 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, Eleventh 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>
- Carlson, A. (2016) Investigating Retail Price Premiums for Organic Foods. USDA ERS. Available online here: <https://www.ers.usda.gov/amber-waves/2016/may/investigating-retail-price-premiums-for-organic-foods/>

Assignments

- Homework #2 due Friday 6/23 11:59pm EDT
 - **Course objectives:** 2, 3, 4

Week 6, June 25 – July 1: 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., Ferreira, G., Carlson, A., Cooke, B., & Hitaj, C. (2017, February 6). Growing Organic Demand Provides High-Value Opportunities for Many Types of Producers. Amber Waves: United States Department of Agriculture Economic Research Service.
- 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

- Kuhns, A. and Saksena, M., 2017. Food Purchase Decisions of Millennial Households Compared to Other Generations. United States Department of Agriculture Economic Research Service.
- “Compass Proves Cafeteria Food Can Be Sustainable”, by Cale Guthrie Weissman, Fast Company. March 1, 2018. Available online: <https://www.fastcompany.com/40525579/compass-proves-cafeteria-food-can-be-sustainable>

Assignments

- Discussion post #2 due Thursday 6/29 11:59pm EDT. Responses due Sunday 7/2 11:59pm EDT.
 - **Course objectives:** 1, 2, 5, 7

Week 7, July 2 - 8: 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
- 30 by 30: Stonyfield's Science-Based Climate Target (32 minutes)– Lisa Drake, Director of Sustainability Innovation, Stonyfield Organic
- Farm to Yum: Sustainability at Annie's (10 minutes)– 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.
- Whelan, T., & Fink, C. (2016). The Comprehensive Business Case for Sustainability. Harvard Business Review, 9. Available online: <https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability>

Supplementary readings

- “Meet the Investors Funding the Fast-Casual Boom”, by Andrea Strong, Eater. December 13, 2017. Available online: <https://www.eater.com/2017/12/13/16743854/vc-investors-investment-firms-restaurants-chefs-fast-casual>

Assignments

- No assignment due

Week 8, July 9 – 15: 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) *The Counter*. Available online: <https://thecounter.org/free-food-labels-actually-affect-us/>

Supplementary readings

- Kuchler, F., Greene, C., Bowman, M., Marshall, K.K., Bovay, J. and Lynch, L., 2017. Beyond Nutrition and Organic Labels—30 Years of Experience With Intervening in Food Labels.
- Messer, K.D., Costanigro, M. and Kaiser, H.M., 2017. Labeling Food Processes: The Good, the Bad and the Ugly. *Applied Economic Perspectives and Policy*, 39(3), pp.407-427.
- 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 Friday 7/14 11:59pm EDT
 - **Course objectives:** 2, 3, 6

Week 9, July 16 – 22: 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.
- 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 Thursday 7/20, 11:59pm EDT. Responses due Sunday 7/23, 11:59pm EDT.
 - **Course objectives:** 2, 4, 5

Week 10, July 23 – 29: 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
- Measuring Social Impacts of Food Production (15 minutes) – Nicole Tichenor Blackstone, 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> (scroll down to select Chapter 3)

Assignments

- Homework #4 due Friday 7/28 11:59pm EDT
 - **Course objectives:** 1, 2, 5

Week 11, July 30 – August 5: 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 Thursday 8/3, 11:59pm EDT. Responses due Sunday 8/6, 11:59pm EDT.
 - **Course objectives:** 1, 2, 5, 7

Week 12, August 6 – 12: Behavioral economics: food waste as a case study for using nudges to promote sustainability

Lecture

- 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
- Environmental Impacts of School Lunch Menus (15 minutes) – Alexandra Stern, Friedman School (tentative)

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 8/11 11:59pm EDT.
 - **Course objectives:** 2, 6, 7

Week 13, August 13 – 19: 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

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
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Week 14, August 20 – 26: Wrap-up and final exam review

Lecture

- Review session via Zoom

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 8/21 at 9:00am EDT, Due Wednesday 8/23 at 11:59pm EDT.
 - **Course objectives: 1-7**

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