

Issues in Food Systems: Food Safety

HCOL 185 Fall 2016

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Office Hours: By Appointment

Class Meeting Times: M,W 3:30-4:45 357 Carrigan Wing/MLS

Target Audience: Sophomore Students in the Honors College

Text: **Selected Readings to be assigned**

Course Objectives:

Each year in the U.S., foodborne illness impacts 48 million individuals. The pathogens *Salmonella*, *Listeria*, *Escherichia coli* O157:H7, *Vibrio*, *Campylobacter* and *Clostridium perfringens* are among the foodborne pathogens which cause serious illness which occasionally leads to death. Assuring the continued safety of the foods we eat is at the heart of a vibrant food system.

- This course will address issues that impact the development of microbiological food safety policy, through analysis of how science and risk assessment are used in establishing policy in a food systems context.

The food system encompasses production, processing, wholesaling, distribution, retailing, consumption and waste management. Food system literacy implies knowledge of these individual components and making informed decisions that support a healthy and sustainable environment.

- How we achieve assurance of food safety within the food system will be the focus of this course.

Using selected case studies and readings, we will examine the factors which have created current food safety policies and explore how future improvements can be made to protect public health.

- Can food producers of all sizes achieve compliance with current food safety regulations?
- What role do consumers play in shaping reforms in policies that govern the safe production of foods?

Students will become familiar with the roles and responsibilities of the FDA, USDA, State Departments of Agriculture and Health and the CDC in shaping policy, as well as the use of tools such as HACCP, Risk Assessment, FoodNet, PulseNet and GenomeTrakr in identification of emerging food safety issues.

Through readings and class writings, students will become familiar with the scientific literature which addresses food safety issues, and how to utilize the scientific literature as a basis for submitting public comments concerning changes in food safety policy.

Grading:

Attendance is mandatory as participation in class discussions will account for 10% of your grade. We will have class assignments which will encompass 20% of your grade. We will have two exams: a mid-term and a final exam, each of which will count for 20% of your grade. We will also have a class project, which will account for 30% of your grade.

Mid-Term	20%
Final	20%
Class Assignments	20%
Final Project	30%
Class Participation	10%

Class Schedule:

August 29: Introduction to Food Safety and Public Policy:

PBS Frontline Program: *Modern Meat*

<http://vimeo.com/72831010>

Readings:

Scallan, E., R.M. Hoekstra, F.J. Angulo, R.V. Tauxe, M.-A. Widdowson, S.L. Roy, J.L. Jones and P.M. Griffin. 2011. Foodborne illness acquired in the United States-Major Pathogens. *Emerg. Infect. Dis.* www.cdc.gov/eid Vol. 17, No.1 January 2011.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3375761/>

The Burger that Shattered Her Life

http://www.nytimes.com/2009/10/04/health/04meat.html?pagewanted=all&_r=0

August 31: Development of food safety regulations and an overview of foodborne disease in the U.S.

Class Discussion: The Burger that Shattered Her Life

September 5: No Class-Labor Day

September 7: Class Writing Assignment: Reflections on Meat Safety

<http://www.npr.org/blogs/thesalt/2014/08/28/342166299/how-foster-farms-is-solving-the-case-of-the-mystery-salmonella>

September 12: Raw Milk and Food Safety: Changing Regulations

Reading Assignments:

<http://www.sevendaysvt.com/vermont/is-selling-raw-milk-viable-in-rural-vermont/Content?oid=2412240>

http://www.uvm.edu/crs/reports/working_papers/WorkingPaperDonnelly-web.pdf

September 14: Class Discussion-Raw Milk Consumption, Sales and Public Health Impacts

Writing assignment: thoughts on raw milk consumption

September 19: Food Safety Reform: FDA Food Safety Modernization Act

<http://www.npr.org/blogs/thesalt/2014/09/30/351774240/european-activists-say-they-dont-want-any-u-s-chlorine-chicken#>

September 21: Food Safety Modernization Act

<http://content.time.com/time/nation/article/0,8599,2035806,00.html>

September 26: *Listeria monocytogenes*: Zero tolerance, risk assessment and control

September 28: Listeria and unusual outbreaks: cantaloupes

<http://www.washingtonpost.com/wp-srv/WPcap/2000-01/16/102r-011600-idx.html>

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2870438/>

October 3: Shelf Life and Food Safety

<http://www.nrdp.net/uufsa/EE3high%20price%20cheap%20food.pdf>

http://www.mumj.org/Issues/v8_2011/articles/v8_65.pdf

October 5: MIDTERM

October 10: NO CLASS

October 12: Produce Safety

<http://jifsan.umd.edu/docs/workshops/producesafety/outbreaks/Produce%20Outbreaks%20Epid%20Inf%20Lynch%202009.pdf>

October 17: The Produce Dilemma

October 19: Redefining Pasteurization

Writing Assignment: Are pasteurization and irradiation synonymous?

October 24: Redefining Pasteurization: Class discussion

October 26: Raw Oysters and Vibrio illness

October 31: Vibrio illness and climate change

November 2: International Food Safety Standards

November 7: Harmonizing International Food Safety Standards

November 9: The Raw Milk Cheese Debate: United States vs European Union Perspectives

November 14: Wooden Boards and Cheese Aging: A tale of science and politics

November 16: Cheese Tasting

November 21-23: THANKSGIVING RECESS

November 28: *Cronobacter sakazakii* and infant formula

November 30: *Cronobacter* and changing regulations

December 5: Final Project Presentations

December 7: Final Project Presentations

“.....Consumer participation in food safety debates is fundamental. Consumers have a right to know and to choose what they are eating and a right to participate in determining what level of food safety risk is acceptable. However, many scientists and regulators are afraid consumers might reject something that is perfectly safe for reasons that cannot be supported by science.

A complex issue, this raises many questions: To what extent should industry and government paternalistically decide what level of risk consumers should accept? How much influence should consumers have in determining what products or processes they are willing to accept? And to what extent should other factors such as values be incorporated into the food safety debate?

There is generally no forum to discuss such issues, and food safety debates often unduly emphasize what is scientifically known about a food safety hazard when the issue at hand is really a conflict of values.....”

From Groth, E. Consumer Considerations *in* Food Safety Policy, Science, and Risk Assessment: Strengthening the Connection: Workshop Proceedings (2001) National Academies Press, page 22.

This class will serve as a forum to discuss and debate current microbiological food safety issues.

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