

ENVH 441 FOOD PROTECTION COURSE SYLLABUS 2017

MWF 1:30 - 2:20
HSB T-530
Winter Quarter

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Office Hours: by appointment or drop-in, but please phone before coming to be sure I am there.
I will do my best to meet with you but recommend you phone for an appointment because I am often out of my office.

Course Overview

In ENVH 441, we study food protection: the measures taken to assure that food intended for human consumption will not cause illness or have adverse effects on consumers' wellbeing. A major transition is now taking place in how regulatory agencies and food service operators conduct food protection activities. A large 1993 foodborne disease outbreak involving *E. coli* 0157:H7 produced great interest in and concern about food safety by the media and public and continues to stimulate changes in food protection programs. Historically, food protection program regulatory activities emphasized looking for potential health hazards associated with the physical environment during routine food establishment inspections, e.g., soiled walls, floors and ceilings. Hazard Analysis/Critical Control Point (**HACCP**) thinking has been replacing this with *process thinking vs. static thinking*.

Emphasis during the course's first half is on the history, social and scientific changes, organisms and chemicals associated with foodborne illness, these agents' sources, how they may be introduced into and/or multiply in foods, and characteristics of the illnesses they cause. The course's second half covers steps taken by government agencies, industry and professionals to prevent foodborne illnesses associated with **retail** food service establishments (restaurants, cafeterias, etc.) This course does not address food protection measures at the manufacturing, production or wholesale levels although many concepts apply to all.

Our **textbooks**, Longrée & Armbruster's *Quantity Food Sanitation*, 1996 fifth edition, and USPHS / FDA *Food Code 2009* explore sanitary practices and regulation of retail food operations as our major references. FDA's *Food Code 1993* replaced and greatly improved the earlier 1978 FDA-recommended food code. Because of the numerous major changes required by *Food Code 1993* and as research discovers new facts about foodborne illness, *Food Code* has been revised every two years to maintain currency but is now revised at 4-year intervals. *Food Code 2009* with a few amendments became Washington State's food code as of May 1, 2013, and has been adopted by most states' public health agencies. *FC 2009's* website is: <http://vm.cfsan.fda.gov/~dms/fc09-toc.html>

The **Course Pack** contains many materials not readily found in reading assignments, serves as your study guide and is available at the South Campus bookstore for ~\$48.

During the quarter we will have two guest lecturers. **Janet Anderberg**, star DOH food protection specialist, will discuss HACCP--the greatest development in food protection for food processors and now retail food establishments. **John Owens**, Ecolab, Inc. will explain soaps, detergents, sanitizers and ware washing, or what is required for eating utensils to get clean enough to eat off of.

Course Activities:

1. **Exams.** There will be two exams of equal value (~100 points). Question types will include multiple choice, true-false, fill-in-the-blank and short-answer based on reading assignments, lecture/class discussion, field trips and the course objectives. Each exam will cover half the quarter's material and be 50 minutes long although you may take up to two hours on the final.
2. **Quizzes.** A short quiz (10 points each) covering the **readings** for that day's class and the preceding session's readings and class discussion *may* be given on any Wednesday or Friday.
3. **Oral Report.** Gaining valuable practice before you go out into the real world to convince people of your viewpoint's correctness (whatever it is) is essential to effective public health practice. During the quarter's second half, each student will partner with another student and present a formal joint report to the class on a selected topic; each person gets 4 minutes. This exercise is to give you practice standing in front of a group of your peers and sharing a specific bit of information with them in an understandable and orderly manner. There may be one or more presentations scheduled at the start of a class session, hopefully when the topic is relevant to the class topic for the day. Therefore, some people will give their presentation earlier than others.

Your presentation must use PowerPoint™. Please email me your presentation at least 1 day before you are scheduled to give it so that I can put it on my laptop. You are welcome to meet with me to discuss your presentation before you are scheduled to give it.

This is to be a formal presentation during which you should state the problem or subject you are addressing, the significant points about it, and your conclusion(s). Practice your presentation in advance of the session to be sure you do not exceed the time limit. There isn't time to provide many descriptive details or explanations; just give a very few facts that you select as significant and that the class should know regarding your topic. You may use notes during your presentation but may not read the presentation. Be prepared to answer

brief questions after your presentation. **Enjoy** this experience; you are enlightening your colleagues, not defending your Ph.D. thesis ☺

4. **Field Inspection Paper.** I will give you an EHS (inspector)'s name and phone # whom **you** must contact to arrange a day, time and place to meet for your field trip to some restaurants. **As soon** as you get the inspector's name from me, phone or email her/him to schedule a half day or longer visit for a time **after** your field trip to a UW food service. You may make this field trip with one other student if it is acceptable to the EHS taking you. Two students with one EHS is the maximum. Before going on your survey with the EHS, be familiar with the general content of the *Washington State Board of Health Rules and Regulations for Food Service WAC 246-215 (Food Code 2009 with Washington State amendments)*.

One purpose of this assignment is for you to demonstrate and practice your writing skills. After the trip, prepare **your own** detailed and descriptive report presenting your observations and evaluation of the field trip, including whether you thought the inspector did a proficient job and why or why not. Put your name in the upper right hand corner of the front page, center the title *Observations and Evaluation of Food Establishment Inspections* a short distance from the top of the page, and follow this by the text. Staple the upper left corner and do not put it in a cover or jacket. It should be long enough to cover your observations in sufficient detail but not excessively verbose. You may 1) bring this to the final or 2) campus mail it to me at 357234 or 3) email it through exam day (March 13).

Organize your report into these 5 sections; it is due the day of the Final Exam:

1. EHS inspector's name with whom you surveyed.
2. Discuss the EHS's pre-inspection preparations, equipment, etc. Comment on undone things you think might be important too.
3. Identify each establishment you visited and describe the procedure the EHS followed entering the establishment, conducting the inspection, conferring and exiting.
4. Discuss the findings and recommendations or actions the EHS wanted taken at each establishment.
5. Give your evaluation/assessment of how the inspections were performed, how effective you think they were (will they change operator behavior?), and how this experience agreed with or varied from what was covered in class and readings.

5. **Class Participation:** You are expected to have read class assignments and reviewed study questions when provided **before** each class session, and be prepared to answer questions; your questions are always welcome. Your

attendance is important if there is to be reasonable class participation and is **required** on the dorm field trip and when there are guest speakers.

6. GRADING IS BASED ON TOTAL POINTS ACCUMULATED

Points are assigned as follows:

Midterm exam = 100 points ± a few

Final exam = 100 points ± a few

Field trip report = 30 points

Oral report = 20 points

Quizzes = 10 points each

Points may be deducted for unexcused absence from required sessions.

COURSE OBJECTIVES

Upon completion of this course a student should be able to:

1. Identify major changes in American food production practices and the problems associated with food protection and food protection programs. Sessions 1, 2
2. State the major functions, emphases and authority of the US Department of Agriculture, Food and Drug Administration, and state and local health departments in the area of food protection. 3
3. Define the causes of "spoiled" food and the environmental conditions affecting spoilage. 4
4. Identify the major food preservation methods, methods and risks of each, and discuss how preservation concepts and principles apply to foodborne illness prevention. 4
5. Describe discoveries that have happened over history that have changed food protection practices. 4
6. Define "foodborne disease outbreak", distill lessons from historical outbreaks, and be able to list the objectives and methods of a good foodborne disease surveillance program. 5
7. Discuss major foods involved, contributing factors, and geography of foodborne disease outbreaks according to national and state surveillance data. 5
8. Identify major toxins, chemical and biological agents capable of causing foodborne illness. Provide information on the etiology of the major diseases and appropriate control measures for each agent (e.g., heavy metals, nitrites, sulfites, mushroom toxins, PSP and domoic acid (ASP), parasites found in food, Hepatitis

A, Noro- and Rotaviruses, and *Staphylococcus*, *C. perfringens*, *C. botulinum*, *Salmonella*, *Shigella*, *Yersinia*, *Campylobacter*, *E. coli*, *Listeria*, *Vibrio* and *B. cereus* bacteria.

6 - 12

9. Define and characterize "potentially hazardous food"; explain changes in early definitions and list measures required to reduce the potential for such foods to become hazardous. 14
10. Distinguish between Washington State's current food regulations and earlier editions as a result of FDA *Food Code 2009* adoption. 14
11. Discuss application of food protection principles by inspection of a food service establishment. Understand establishment inspection principles in detail. 15
12. Discuss the relationship of time and temperature to food cooling, holding, storage, and foodborne pathogen growth, how food thermometers function, and correct food temperature monitoring. 18, 19
13. Name the HACCP concept's 7 steps and how they are implemented. 20, 21
14. Describe the approved procedures and conditions for washing and sanitizing tableware. 22
15. Describe detergents' and sanitizers' major ingredients, methods of operation, and functions. 23
16. Describe the use and effectiveness of heat and chemical sanitizers. 23
17. Discuss food service worker and manager education, training and certification Problems. 24
18. Have knowledge of air removal, lighting, plumbing needs and pest management in food establishments as they relate to food protection. 25
19. Describe parameters for safe retail food storage, preparation and service. 25
20. Identify the criteria used in food service equipment design, construction and placement. 26
21. Describe the factors which assure that milk, shellfish, mushrooms and other foods are safe products. 27

Academic Integrity Statement

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.

The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism and the [SPH Academic Integrity Policy](#). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website.

Disability Resources Statement

Access and Accommodations: Your experience in this class is important to me. Students needing disability accommodations to attend class please inform me or call Disability Resources for Students in 448 Schmitz Hall at 206.543.8924. If you have already established accommodations with Disability Resources for Students (DRS) or have a letter from Disability Resources, please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to: mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.