ENVH 441 FOOD PROTECTION COURSE SYLLABUS

Winter Quarter 2015
HSB T-530
MWF 1:30 - 2:20

Instructor: Charles Easterberg, Lecturer
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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. Please note: my office is on upper campus.

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 a letter from Disability Resources, please present it to me so that we can discuss the accommodations you might need to attend.

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 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, Longree & Armbruster’s Quantity Food Sanitation, 1995 fifth edition, and USPHS / FDA Food Code 2009 explore sanitary practices and regulation of retail food operations as our major references. Two decades ago, FDA’s Food Code 1993 replaced and greatly improved the earlier 1978 FDA-recommended food code. Because of the numerous major changes embodied in Food Code 1993, frequent updates have been made as new information about food protection has been discovered. Food Code was 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 many state public health agencies nationwide because it covers routine inspection processes and addresses HACCP. 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 ~$38.
During the quarter we will have up to three 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 and sanitizers.

**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.** During the second half of the quarter, each student will present a formal report to the class on a selected topic. 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.

   You must use visual aids (e.g., PowerPoint™). Please email me your presentation at least 1 day before you are scheduled to give it. If you use transparencies, I am available to make them free from your master copy and/or duplicate a handout for the class if you provide me the masters at least 1 day before class. 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, 1 or 2 significant points about it, and your conclusion. Practice your presentation in advance of the session to be sure you do not exceed the 5-minute 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!) and gaining valuable practice before you go out into the real world to convince people of your viewpoint’s (whatever it is) correctness.

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 class when you take the final exam, 2) campus mail it to me at 354400, or 3) email it through the day of the exam (March 16).

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

1. EHS inspector’s name with whom you went out on the inspection;
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 visit 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 problems associated with food protection and food protection programs. Session 1, 2
2. State the major functions, emphasis, and authority of local and state health departments, US Department of Agriculture and Food and Drug Administration in the area of food protection. 2
3. Define the causes of "spoiled" food, and the environmental conditions affecting spoilage. 3
4. Identify the major food preservation methods, methods and risks of each, and discuss how preservation concepts and principles apply to foodborne illness prevention. 3
5. Describe changes in today's society that make food protection more difficult than formerly. 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 the 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, nitrates, sulfites, mushroom toxins, PSP and domoic acid (ASP), parasites found in food, Hepatitis A, Norwalk and Rotaviruses, and Staphylococcus, C. perfringens, C. botulinum, Salmonella, Shigella, Yersinia, Campylobacter, E. coli, Listeria, Vibrio and B. cereus bacteria. 6 - 11

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. 13

10. Distinguish between Washington State's current food regulations and earlier editions as a result of FDA Food Code 2009 adoption. 13

11. Discuss the relationship of time and temperature to food cooling, holding, storage, and foodborne pathogen growth, how food thermometers function, and food temperature monitoring. 14, 15

12. Describe parameters for safe retail food storage, preparation and service. 16

13. Discuss application of food protection principles by inspection of a food service establishment. Understand the fine points of establishment inspection in detail. 17-19

14. Name the HACCP concept's 7 steps and how they are implemented. 20, 21

15. Identify the criteria used in food service equipment design, construction and placement. 22

16. Discuss problems, education, training and certification for food service workers and managers. 23

17. Describe the approved procedures and conditions for washing and sanitizing tableware. 24

18. Describe detergents’ and sanitizers’ major ingredients, methods of operation, and functions. 25

19. Describe the use and effectiveness of sanitizers: heat, chlorine, quats, and iodophors. 25

20. Understand the complexity of retail food processing environments and how a food establishment’s general environment, e.g., lighting, ventilation, pest control, etc., may affect food safety. 26

21. Describe the factors which assure that milk, shellfish and other foods are safe products. 27