

# Department of Public Health

## Food Safety (ENV 490)

### Spring 2016 Syllabus

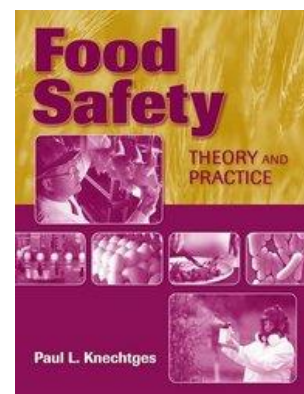
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**Office Hours:** Wednesday 12:30 pm – 3:30 pm or by appointment  
**Lecture Format:** Web-based (Online)

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#### Text and Reading Assignments

1. The Required Text is titled “*Food Safety: Theory and Practice*” 2012 Edition by Paul L Knechtges, PhD; Jones & Bartlett Learning, 5 Wall Street, Burlington, MA 01803 (ISBN-13: 9780763785567)
2. Foodborne Illness and Outbreak Investigation Manual (March 2008). Kansas Department of Health and Environment, Office of Surveillance and Epidemiology, Topeka, KS 66612
3. Handouts and other reading materials will be posted on Blackboard or provided as a web link.



#### Course Summary

##### *Food Safety: Theory and Practice* by Paul L Knechtges

This text is written from a “farm-to-fork” perspective and provides a comprehensive overview of food safety. It discusses the biological, chemical, and physical agents that are commonly implicated in foodborne disease outbreaks. There are 8 chapters and the first few chapters introduce students to the history and fundamental principles of food safety. Later chapters provide an overview of the risk, hazard analysis of different foods, and the important advances in technology that have become indispensable in controlling hazards in the modern food industry. Finally, the text covers critically important topics and organizes them in a manner to facilitate learning for those who are, or who may become, food safety professionals.

According to a recently published report by the Trust for America’s Health (TFAH), accidental foodborne illnesses cause an estimated 76 million illnesses, 325,000 hospitalizations, and 5,200 deaths each year in the United States. Also, a 2007 public opinion poll conducted by the TFAH found that 67 percent of Americans are worried about food safety and food contamination – and this ranked higher than their concerns about the pandemic flu, biological or chemical terror attack, and Hurricane Katrina. Major outbreaks can also contribute to significant economic losses in the agriculture and food retail industries. The U.S. Department of Agriculture (USDA) estimates that medical expenses and losses in productivity due to missed work and premature deaths from five major types of foodborne illnesses costs at least \$6.9 billion annually. This figure may represent a tip of the iceberg as it does not account for a broad spectrum of foodborne illnesses or their wide-ranging repercussions for consumers, government, and the entire food industry.

The World Health Organization (WHO) defines foodborne illnesses as diseases, usually<sub>1</sub>

either infectious or toxic in nature, caused by agents that enter the body through the ingestion of food. Food-related and other diarrheal illnesses are underreported throughout the U.S. Although most diarrheal illnesses resolve within 24 to 48 hours without any medical attention, many food-related illnesses are not diagnosed and associated foodborne disease outbreaks are often not recognized. This poses a challenge for public health professionals to maintain the knowledge and resources to identify and respond to these outbreaks. Although specific preventions cannot be mounted against the many possibilities for foodborne bioterrorism, adulteration and contamination, strategic preparations to reduce vulnerability to foodborne illness and to anticipate and address the medical, social, and economic consequences could mitigate foodborne threats to human health.

A successful food safety strategy must make prevention of food safety problems the central focus of the system; update priorities so resources are devoted to the areas of highest hazard and risk; develop uniform best practices and standards; invest in research to continually update practices and standards to keep pace with changes in the food supply and the industry; and shift from the current outdated inspection practices that focus on end products and limited inspections at processing plants to strategically inspect foods throughout the production and processing processes via “hazard critical control points.”

### **Student’s Responsibilities and Assessments**

1. Every student is expected participate in all weekly blackboard discussion board assignments, quizzes, projects, and exams. Although this course is web-based, students are expected to be actively involved - read each chapter assignment, ask or post questions for clarity and improved understanding of issues and concepts on food safety and complete all assignments in a timely fashion. There will be a number of short multiple choice quizzes (dates and times will be announced on Blackboard).
2. The QEP is an individual project designed to meet WKU’s **Quality Enhancement Plan (QEP)** theme of **Engaging Students for Success in a Global Society**. It is based on the premise that students who are more actively involved in their education will learn more, and thus be more successful during their educational careers and beyond. Every student is expected to conduct this project at a local grocery store in the community. The QEP is assigned a total of **60 points**.
3. **Class Submissions:** Presentation material will be submitted to a designated class discussion forum (unless otherwise directed). Weekly Discussion/Assignments & Quizzes must be received by the server by 11:59:59 p.m. (CST) on the due date. Assignments received late (1 second, minute, hour or day) will not be evaluated. Early submissions are strongly encouraged. To this end, students/groups waiting until the last 24 hours to turn in assignments will have entered the “on-my-own” zone. This means that during the last few hours I may not be available to answer questions or figure out accommodations when “the unexpected happens.” Submissions must be scanned for viruses prior to posting on blackboard.
4. **Examinations:** All exams will be completed using the testing capabilities of the Blackboard learning management system. Students must take the exam at the scheduled date/time. All Exams will be timed – giving well-prepared students ample time to answer all questions. Exams are scored immediately upon completion – no waiting in suspense to see how well you performed. Please note that the final exam must be taken on the date stipulated in the WKU final exam calendar or as directed by the instructor.
5. **Class Attendance/Participation:** This is a web-based or online course and as such, “class attendance” in the traditional sense of the word is not required. Students are free to manage their schedules within and around the due-dates of the various deliverables/assignments. Participation in class discussion board assignments is required and students must participate on a regular basis throughout the course.
6. **Discussions:** **The minimum participation is 3 times on separate days a week for each forum.** Each discussion assignment will be posted in the Discussions section of Blackboard and is assigned a total of **15 points (90 points for all 6 discussions)**. Grading will be based on the following:  
**A (15 points)** = Three or more substantial postings in each graded forum for the week. The postings provide insightful comments; stimulate active discussion threads with their postings. These2

posts provide good responses to the questions posed, read the comments of others and interact with them.

**B (11-14 points)** = Meets the minimum participation requirements. These postings initiate few interesting threads and are not interacting with others.

**C (5-10 points)** = Two substantial posts followed by one general response in each forum per week.

**D (0-5 points)** = Fewer than 2 postings or one day of participation/no participation/non-interacting.

7. **E-Mail Formatting:** E-mail is the most common way for students to contact me. Since I receive numerous mails each day, I tend to filter messages into different boxes. You need to use the following format each time that you create the SUBJECT line or your mail will not be properly received. Subject: ENV 490, *YourLastName, Brief Subject Matter.*(Example: ENV 490, Jordan, A question about next week's quiz)

**Note:** E-mail is an impersonal medium of communication. If you need to talk about something important or personal, etc. you will either call my office (270 745-0012) or arrange to see me in my office (AC 128A).

### 8. **Late Work and Academic Dishonesty**

All assignments must be completed by you, the student and are due on the date indicated. Late submissions may not be accepted or accepted with a deduction of 20% of the grade. It is the student's responsibility to submit assignments in a timely fashion and to ensure the instructor received them. WKU has **zero** tolerance for academic dishonesty- any cheating will be dealt with accordingly.

### 9. **Grading**

Discussions Assignments & QEP 150 Exams 1-6 (100 points each exam) 600 Final Exam (Final Exam Week*) 150	<b><i>Note that "90%, 80%, 70%, 60%, etc." rule will determine the final course grade. E.g., 810 points and above will result in a grade of "A" while 720 to 809 points will result in a "B grade," etc. <u>Note that "A" is not a de-facto grade in this course.</u></i></b>
<b>Total Points 900</b> <i>*The final exam must be taken online within a 2-hour period on a given date and time during the final exam week. Details will be provided.</i>	

### 10. **Disability Statement**

Students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office of Student Disability Services (OFSDS) in Room 445, Potter Hall (Tel.: 270 745-5004 V/TDD). Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office of Student Disability Services.

## Course Calendar

Week	Topic(s)	Chapters
<b>1-2</b>	Introduction to Food Safety; Food and Agriculture <b>(Discussion 1 and Exam 1)</b>	1 Handout
<b>3-4</b>	Foodborne Infectious and Microbial Agents; Fixing Food Safety: Protecting America's Food Supply from Farm-to-Fork <b>(Discussion 2 and Exam 2)</b>	2 Handout
<b>5-6</b>	Foodborne Toxic and Physical Agents <b>(Discussion 3 and Exam 3)</b>	3
<b>7</b>	<i>Spring Break (no class)</i>	
<b>8-9</b>	Food Safety: Principals of Prevention <b>(Discussion 4 and Exam 4)</b>	4
<b>10-11</b>	Food Safety: Engineering Controls and Technology <b>(Discussion 5 and Exam 5)</b>	5
<b>12-13</b>	Risk and Hazard Analysis of Foods; Hazard Analysis and Critical Control Points (HACCP) System and Guidelines <b>(Discussion 6 and Exam 6)</b>	6 Handout
<b>14</b>	Laboratory Methods for Food Safety <b>(QEP assigned)</b>	7
<b>15</b>	Safety Management of the Food Supply	8
<b>16</b>	<b>(QEP due on Blackboard)</b> <b>Final Examination (comprehensive)</b>	1-8 (All Chapters)

**Note:** Exams 1-6 are non-cumulative (i.e., you will only be tested once on the chapters/handouts covered for the week prior to each exam and after the last exam). However, the final exam will be comprehensive (covers chapters 1-8 and handouts- details will be provided later in the semester).

**The Final Exam MUST be taken during the WKU Final Exam week (this is a 2-hour exam on a date/time that will be determined by me).**