

New Course Request

Indiana University

Indianapolis Campus

Check Appropriate Boxes: Undergraduate credit Graduate credit Professional credit

1. School/Division Medicine/ Public Health 2. Academic Subject Code PBHL

3. Course Number A628 (must be cleared with University Enrollment Services) 4. Instructor McSwane

5. Course Title Food Science and Sanitation

Recommended Abbreviation (Optional) Food Science & Sanitation

(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2010

7. Credit Hours: Fixed at 3 or Variable from 0 to 0

8. Is this course to be graded S-F (only)? Yes No

9. Is variable title approval being requested? Yes No

10. Course description (not to exceed 50 words) for Bulletin publication: This course will examine the various hazards that cause foodborne illness as well as the risk factors that are know

to contribute to these diseases. This course will study the basic concepts of food

science and technology and basic food safety principles and practices that re recommended

by the Food and Drug Administration's Food Code.

11. Lecture Contact Hours: Fixed at 3 or Variable from 0 to 0

12. Non-Lecture Contact Hours: Fixed at 3 or Variable from 0 to 0

13. Estimated enrollment: 30 of which 100 percent are expected to be graduate students.

14. Frequency of scheduling: Fall/Spring/Sum Will this course be required for majors? No

15. Justification for new course: Necessary component for the development of the Master of Public Health electives.

16. Are the necessary reading materials currently available in the appropriate library? Yes

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:

Carole Kacius Date 1-29-10
Department Chairman/Division Director

Approved by:

Peter K. ... Date 02-03-2010
Dean

Date _____
Dean of Graduate School (when required)

Date _____
Chancellor/Vice-President

Date _____
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

Indiana University-Purdue University Indianapolis
School of Medicine
Department of Public Health
Spring, 2010

COURSE

Course Number/Title: PBHL-A628/Food Science and Sanitation
Class Number:
Date and Time; Location:

INSTRUCTOR

Instructor: Dr. David McSwane
Office: BS 4067
Office Hours:
Telephone: 274-2918
Fax Number: 274-7860
E-mail Address: dmcswane@iupui.edu

COURSE DESCRIPTION

The United States has one of the safest food supplies in the world. Yet, each year millions of Americans of all ages become ill, some with potentially fatal diseases, from eating contaminated food. Foodborne illness poses a significant challenge to public health in America, and prevention of foodborne disease is a key role of public health, environmental health, and agriculture agencies throughout the nation.

Food safety is the component of environmental health that protects our food supply from farm to table. These programs typically involve a cooperative effort between the food industry and regulatory agencies at the federal, state, and local levels. The collective goal of these programs is to enhance the safety of America's food supply and reduce the incidence of foodborne illness which is a major cause of discomfort and preventable death

This course will examine the various hazards that cause foodborne illness as well as the risk factors that are known to contribute to these diseases. Common and emerging foodborne diseases will be studied with emphasis being given to the etiological agents that cause them and the foods they are commonly associated with. We will study the basic concepts of food science and technology with an emphasis on the methods and processes used at the various stages along the flow of food from farm to table to ensure the safety and wholesomeness of our food supply. We will also study the basic food safety principles and practices that are recommended by the Food and Drug Administration's *Food Code* and must be employed by individuals and facilities engaged in the

preparation and service of food products for human consumption.

REQUIRED COURSE MATERIALS

Potter, Norman N. and Joseph H. Hotchkiss (1995). Food Science, 5th Edition, Chapman & Hall Publishing Company, New York, NY.

McSwane, David, Linton, Richard, and Nancy Rue (2007). *SuperSafeMark Guide to Food Safety*, Food Marketing Institute, Arlington, VA.

ENVIRONMENTAL HEALTH CONCENTRATION COMPETENCIES ADDRESSED IN THIS COURSE

1. Describe the direct and indirect human and ecological effects of major environmental and occupational agents.
2. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.
3. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
4. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.

COURSE LEARNING OUTCOMES

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

- Describe the role which natural properties of foods play in the selection of appropriate processing technology.
- Explain the major processes used to produce and process foods served and sold for human consumption in America.
- Describe the impact foodborne illness can have on society.
- Identify the characteristics of human diseases that are commonly transmitted through the consumption of contaminated food products.
- Explain the fundamental principles and practices of food safety and sanitation.
- Explain the major provisions of the FDA *Food Code* and how they are used to promote sanitation within the retail food industry.

- Describe the procedures used by environmental health professionals in the public and private sectors during the conduct of regulatory and quality assurance activities.

INSTRUCTOR'S CLASSROOM POLICIES

Attendance at classes is expected unless prevented by work, illness, or family emergencies. If you know in advance that you will be unable to attend a class, you should contact the instructor to make him aware of your situation. If you are unable to attend nearly all scheduled class meetings, you should withdraw from the course.

In general late work is not accepted, unless there is a medical or personal emergency which can be documented. I recognize that extenuating circumstances may exist, and I will consider such requests on a case by case basis, but all students will be treated equitably. If you must travel out of town, your work must be submitted prior to leaving.

ASSESSMENT AND GRADING

The final grade will be based on the following:

1. Examinations (60%) – There will be four examinations administered during the semester. Each examination will contain questions dealing with the information presented in class lectures, PowerPoint slides and assigned reading materials. The fourth test will be a national food protection manager certification examination offered by the National Registry of Food Safety Professionals. This examination will cover all of the content in the *SuperSafeMark Guide to Food Safety* textbook.
2. Research Project and Oral Presentation (25%) – All students in the class will be expected to participate in writing a research paper and making an oral presentation of their significant findings. The topic of the research must be germane to the course and should not substantially duplicate subjects that have been presented in this class or other classes or duties related to your job. Research topics may be local, regional, national, or international in scope.
3. Class Participation (15%) - All students are expected to take an active part in class discussions. The grade for the class participation portion of the course will be based on attendance at the final three class sessions and article summaries that will be assigned throughout the semester.

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Research Paper

Each student will be required to write a 7-10 page term paper on a topic pertaining to foodborne disease; food production, food processing or preparation, retail food safety and sanitation, or another topic germane to contemporary food safety. Each student will be required to present a 10 minute summary of their research project to the class at the end of the semester. A 1-2 page proposal for the research paper must be submitted by each student. This proposal must include a definition of the problem to be studied, a topical outline, and at least five peer reviewed sources of information about the topic. All research papers must be submitted on the due date.

Research reports will be evaluated on the following criteria.

1. Applicability/Timeliness (Is the topic relevant to the class and is the information presented in the paper current?)
2. Comprehensiveness (Does the research go beyond a simple description of a problem?)
3. Depth of Analysis (Does the research paper provide an analysis of the causes and effects of the problem as well as the short- and long-term effects on man and the environment? Are the conclusions supported by the content of the paper?)
4. Quality of the Report (Does the research paper contain correct spelling, grammar and sentence structure?)
5. Quality of the Sources (Are there a sufficient number of sources provided, and are they timely and of acceptable quality?)
6. Oral Presentation (Were the highlights of the research presented in a clear, concise fashion and were proper visual aids used?)

Article Reviews

From time to time throughout the semester you will be expected to read an article from a professional journal, newspaper, popular magazine, web site or other reputable source for information about a contemporary food safety topic or issue. You will be expected to submit a copy of the article and a 1-2 page report that summarizes and highlights the content of the article in your own words. When possible, time will be provided in class for students to share this information with their classmates. These are not optional assignments and every student is expected to participate.

FINAL GRADE SCALE

A+:	98 - 100	C+:	78 - 79
A:	93 - 97	C:	73 - 77
A-:	90 - 92	C-:	70 - 72
B+:	88 - 89	D+:	68 - 69
B:	83 - 87	D:	63 - 67
B-:	80 - 82	D-:	60 - 62
		F:	Less than 60

STUDENTS WITH DISABILITIES

Students needing accommodations because of disability will need to register with Adaptive Educational Services (AES) and complete the appropriate forms issued by AES before accommodations will be given. The AES office is located in UC137, and you can reach the office staff by calling 274-3241.

STUDENT COURSE EVALUATION

The Department of Public Health evaluates all courses. Student course evaluations will be conducted in a manner that maintains the integrity of the process and the anonymity of respondents.

ACADEMIC INTEGRITY

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Student Misconduct section of the IUPUI *Code of Student Rights*, <http://live.iupui.edu/dos/code/htm>.

COURSE SCHEDULE

<u>Date</u>	<u>Topic</u>	<u>Reading Assignment</u>
Week 1	Introduction to Food Science and Sanitation	Text 1: Chapter 1
Week 2	Nature and Scope of the Food Industry	Text 1: Chapter 2 Text 2: Chapter 1
	Foodborne Hazards and Foodborne Disease	Text 1: Chapter 23 (pp. 532-543) Text 2: Chapters 2
Week 3	Foodborne Hazards and Foodborne Disease Article Summary 1 due	Text 1: Chapter 23 (pp. 532-543) Text 2: Chapters 2
	Factors that Contribute to Foodborne Disease	Text 2: Chapter 3
Week 4	Investigating Foodborne Disease Exam I	Handout Materials
Week 5	Food Constituents and Nutrition	Text 1: Chapters 3 and 4

<u>Date</u>	<u>Topic</u>	<u>Assignment</u>
Week 6	Unit Operations and Quality Control Research Paper Outline Due	Text 1: Chapters 5, 6, 7
Week 7	Heat and Cold Processing of Food	Text 1: Chapters 8, 9
Week 8	Food Dehydration and Concentration	Text 1: Chapter 10
	Food Irradiation & Microwave Heating	Text 1: Chapter 11
Week 9	Exam II Milk and Milk Products	Text 1: Chapter 13
	Meat, Poultry and Eggs Article Summary 3 due	Text 1: Chapter 14
Week 10	Seafood, Fats and Oils	Text 1: Chapters 15, 16
	Cereals, Fruits, Vegetables and Beverages Registration Fee for NRFSP Exam is due!!	Text 1: Chapters 17 - 19
Week 11	Exam III Following the Flow of Food	Text 2: Chapter 4
Week 12	The Hazard Analysis Critical Control Point (HACCP) Inspection System	Text 2: Chapter 5
	Facilities, Equipment and Utensils Cleaning and Sanitizing Operations, and Environmental Sanitation and Maintenance	Text 2: Chapter 6, 7, and 8
Week 13	Government Regulations and Food Defense	Text 1: Chapters 21, 23, and 24 Text 2: Chapters 9, 10 and 11
	Food Protection Manager Certification Examination	
Week 14	Student Research Reports - Mandatory Attendance	
Week 15	Student Research Reports - Mandatory Attendance	