

FDSC 4823 FOOD MICROBIOLOGY

Fall 2016

Course Description

The study of food microbiology including classification/ taxonomy, contamination, preservation and spoilage of different kinds of foods, pathogenic microorganisms, food poisoning, sanitation, control and inspection and beneficial uses of microorganisms.

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Textbook:

Food Microbiology FDSC 4823. Available only at the University Bookstore.

www.uarkansas.bkstr.com 479/575-3010

Course Objectives:

1. Identify the characteristics, sources and significance of predominant food microorganisms.
2. Understand microbial foodborne diseases, their growth and influencing factors, metabolism and sporulation.
3. Explain the benefits of microorganisms in starter cultures, biopreservation , bioprocessing and probiotics
4. Understand the foodborne pathogens associated with intoxication, infections and toxicoinfections.
5. Understand the methods used to control microorganisms

Course Topics:

History of food microbiology

Classification / Taxonomy of Microorganisms

Characteristics of Predominant Microorganisms

Important Bacterial Groups in Food

Sources of Microorganisms in Food

Normal Microbiological Quality of Foods and Its Significance

Microbial Growth Response in the Food Environment

Microbial Metabolism of Food Components

Microbial Sporulation and Germination

Microorganisms used in Food Fermentation

Intestinal Beneficial Bacteria/ Use of Biopreservatives

Microbial Food Spoilage

Microbial Foodborne Illnesses and Pathogens

Control of Microorganisms in Food

Microbial Detection and Food Safety

Conduct of Class;

On the Blackboard website in the Contents section are some PowerPoints for the lectures. You can also listen to the lecture that was narrated several years ago when I taught the on campus course in food microbiology. Since this is a graduate level course, you must decide the depth you would like for the course. You can learn it all in depth or you can be familiar with the topic area. It is your career and your choice. You will be asked to write 3 papers during this semester. The topic is up to you but should be on the lectures that preceded the paper due date. The first third of the semester covers general microbiology. The middle third of the course is on pathogens and the final third covers the various microbiological problem areas or control systems. Please write sometime you will be proud of and not a bunch of unrelated paragraphs. I would like to see a logical thought process, no misspelled words and good grammar. Of course the content matter should make sense.

Assessments:

Grades will be determined by writing 3 papers due on October 7, November 18 and December 5 on topics of your choosing but on areas previously covered. For example the first paper should deal with a topic in lectures 1-16. The second paper should cover one of the pathogens (lectures 17-34). Paper #3 should be on a topic found in lectures 35-50 (Use of food micro in the real world). Do not wait until a week before they are due and

throw something together. Use your writing skills to compose something you will be proud of. A rubric for sample writing is on the following page.

Basic Rubric:

	100% Expert Writer:	95% Master Writer:	85% Journeyman Writer:	75% Apprentice Writer:	65% Novice Writer:
Writing: Focus	The response establishes and maintains focus on the main idea the whole time.	The response is focused on the topic.	The response is generally focused, but may contain some extraneous information.	The response is generally focused, but contains some extraneous info or is sometimes confusing.	The response is related to the topic, but does not clearly establish a main idea and/or has little supporting detail.
Writing: Organization	Logical organizational pattern. Clearly organized ideas with creative transitions or connections. Has a sense of wholeness.	Evident organizational pattern with some lapses. Clearly organized ideas with transitions or connections. Has a sense of wholeness.	Evident organizational pattern with some lapses. Clearly organized ideas with some transitions or connections	Attempted organizational pattern. Simply organized ideas with limited transitions or connections	Lacks effective organization of ideas
Writing: Support	Concrete details; relevant information; elaboration; clear, precise word choice; sense of completeness	Concrete details, relevant information, limited elaboration, adequate word choice	Concrete details, mostly relevant information, elaboration and/or precise word choice	<i>Limited</i> details, relevant information, elaboration, and precise word choice	Lacks concrete details, relevant info and/or elaboration

Writing: Conventions/ Writing Mechanics	Varied sentence structure; Conventions are used correctly	Some varied sentence structure; evident knowledge of correct use of punctuation, capitalization , & spelling demonstrate d	Some varied sentence structure; conventions of punctuation, capitalization, & spelling generally used	Mostly simple sentences; some knowledge of punctuation, capitalization, and spelling demonstrated	Frequent errors in the use of capitalization, punctuation, and usage; commonly used words are misspelled.
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Grading will be as follows:

100 – 90% (100 -90 Points) = A

80-89% (80-89 Points) = B

70 – 79 % (70-79 Points) = C

60 -69% (60-69 Points) = D

<59% (less than 59 points) = F

Late Work Policy;

All work is due based on established and announced due-dates unless prior approval is obtained from the instructor. If work is turned in late, 50% of the total assignment value will be deducted prior to assessment of the work, as long as the work is turned in no later than three days following the due date. Work turned in after that will automatically receive a 0. This policy is in effect as an incentive to stay current with the assigned work. Like many courses, the work of one session is based on understanding the work of the previous session(s). Falling behind in the work greatly reduces the chances of success at attempting later work.

Academic Honesty;

I am committed to the principle of academic honesty and I expect each student in my class to maintain a high standard of academic integrity. My commitment to you, the student, is to provide a learning environment that promotes academic honesty in and out of the classroom. I support the University of Arkansas policy concerning academic honesty that is described in the Student Handbook. Consequently, any student involved in an academically dishonest act will be given an F in the class and the action will be reported to the All University Judiciary. Students are expected to work independently on the various projects assigned.

Communications:

- If you have any questions about the course material, email me at seideman@uark.edu. I will try to check my email regularly and will usually respond to course-related questions within 48 hours.
- Graded assignments will be returned to students within a week unless I have some crisis. Be sure to open the returned assignment and review the instructor's comments.
- If you have technical questions or problems with Blackboard, contact;

Blackboard Learn Help Desk (Faculty Technology Center) 479-575-6804 Monday through Thursday, 7 a.m. to 10 p.m. Friday from 7 a.m. to 5 p.m. Saturday from 11 a.m. to 4 p.m., and Sunday from 6 to 11 p.m. bbhelp@uark.edu

Call 479-575-2904 to alert technical staff if Blackboard Learn is not responding after hours. Limited technical support and troubleshooting is also available after hours.