

FOOD MICROBIOLOGY FALL 2006

FST 416 (UI)
MMBB 416 (UI)
FSHN 416 (WSU)
MBIOS 444 (WSU)

Day and Time:	Tuesdays and Thursdays 1:30-2:20 PM
Location:	AgSci 204
Instructor:	Dr. Gülhan Ünlü Agricultural Biotechnology 205 885-7771 gulhan@uidaho.edu
Credits:	2
Required Text:	Food Microbiology: An Introduction, 2005, Thomas J. Montville and Karl Matthews, American Society for Microbiology (ASM) Press, Washington, DC
Recommended Text:	Food Microbiology: Fundamentals and Frontiers, 2001, Edited by Michael P. Doyle, Larry R. Beuchat, and Thomas J. Montville, 2 nd edition, American Society for Microbiology (ASM) Press, Washington, DC
Student Office Hours:	By appointment Set up appointments via email Agricultural Biotechnology 205
Student Coordinator (FST):	Matt Agle 885-7084 agle@uidaho.edu

Course Objectives:

Main Objective: Obtain a good understanding of food microbiology and become qualified for a food microbiologist position in industry or in government.

Specific Objectives:

1. Become familiar with methods used to determine microorganisms and their products in foods.
2. Understand the causes of food spoilage and predict the microorganism that can spoil a given food, when prepared, processed and stored under given conditions.
3. Understand the causes of food-borne microbial diseases and predict the pathogens that can grow in a given food, when prepared, processed and stored under given conditions.
4. Be able to predict the necessary measures to control the spoilage and pathogenic microorganisms in food.
5. Be able to apply information concerning a food and its environment to an analysis of the microbiological hazard associated with that food.

Course Outline:

<u>Period</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>
1	T	8/22	Introduction / The Trajectory of Food Microbiology
2	R	8/24	Factors That Influence Microbes in Foods
3	T	8/29	Factors That Influence Microbes in Foods
4	R	8/31	Spores and Their Significance
5	T	9/5	Spores and Their Significance
6	R	9/7	Detection and Enumeration of Microbes in Foods
7	T	9/12	Rapid and Automated Microbial Methods
8	R	9/14	Indicator Microorganism and Microbiological Criteria
9	T	9/19	<i>Salmonella</i> Species
10	R	9/21	<i>Campylobacter</i> Species
11	T	9/26	TEST 1 (PERIOD 1-10)
12	R	9/28	Enterohemorrhagic <i>E. coli</i>
13	T	10/3	<i>Yersinia enterocolitica</i>
14	R	10/5	<i>Shigella</i> Species
15	T	10/10	<i>Vibrio</i> Species
16	R	10/12	<i>Enterobacter sakazaki</i>
17	T	10/17	<i>Listeria monocytogenes</i>
18	R	10/19	<i>Staphylococcus aureus</i>
19	T	10/24	<i>Clostridium botulinum</i>
20	R	10/26	<i>Clostridium perfringens</i>
21	T	10/31	<i>Bacillus cereus</i>
22	R	11/2	TEST 2 (PERIOD 12-21)
23	T	11/7	Fermentative Organisms
24	R	11/9	Spoilage Organisms
25	T	11/14	Molds
26	R	11/16	Viruses and Prions

27	T	11/21	FALL RECESS (NOVEMBER 20-24, 2006)
28	R	11/23	FALL RECESS (NOVEMBER 20-24, 2006)
29	T	11/28	Antimicrobial Chemicals
30	R	11/30	Biologically-based Preservation and Probiotic Bacteria
31	T	12/5	Physical Methods of Food Preservation
32	R	12/7	Industrial Strategies of Ensuring Safe Food
33	F	12/14	FINAL EXAM (CUMULATIVE WITH MAJOR EMPHASIS ON PERIOD 23-32)

Date: Thursday, December 14, 2006; 12:30-2:30 PM

Final grades due: Monday, December 18, 2006

Class Format: Plan to attend every class. Attendance is not mandatory, but is monitored closely. The format of the class will be a combination of lectures, guest presentations, class discussions, case studies, etc.

Class Notes: PowerPoint slides, selected former tests, test grades, assignments, announcements, etc. will be available online: <http://courses.ag.uidaho.edu/fst/fstmmbb416>. The website will be updated during the first week of class. You will be responsible for printing out your own set of PowerPoint slide notes. Hard copies of any additional lecture visuals (graphs, tables, pictures, etc.) will be given to you on the day of the lecture. You will need to take some notes during lectures.

Guest Presentations: I expect to host a few guest speakers. The dates of the guest presentations will be announced as they are confirmed.

Reading: You are expected to read (and thus responsible for) all chapters in your required textbook.

Questions/Class Discussions: Asking relevant questions and participating in class discussions is highly encouraged. Your final grade depends not only on your test scores but also on your participation in the course.

Tests: There will be two tests plus the final exam. Tests will be worth 100 points each. Final exam will be worth 100 points. The tests will consist of true and false, multiple-choice, filling in the blanks, matching and short answer questions. Guest speakers will be asked to prepare test questions out of their lectures. Tests will be available for pick-up. Final exam will be available for viewing only.

Make-up tests will not be given unless you can demonstrate due cause for the absence such as jury duty, court appointments, hospitalization, traffic accidents, death of a family member, essential travel, etc. Excused absences will be granted upon submission of appropriate documentation (e.g., illness with a physician's note).

Other: Cheating – acquisition of answers to test questions in a dishonest fashion – will result in a score of zero for that test or final exam. A zero on any one test or final exam can result in an F as a final grade in the course. All parties involved in cheating will be penalized. Refer to the Student Code of Conduct of the Faculty Staff Handbook at the UI or its counterpart at WSU.

Reasonable accommodations for tests and final exam are available for students who have documented a disability. Notification of any accommodations needed is necessary during the first week of class. All

accommodations must be approved through the UI Disability Resource Center (DRC) or its counterpart at WSU.

Impromptu writing-to-learn and writing-to-communicate assignments may be given. In-class assignments (mandatory) are expected to take about 5-10 minutes and will not be graded. Assignments for home (optional) will be brief (1-2 pages) and are subject to grading. Scores are expected to contribute to the final grade as extra credit.

Grading:

2 tests: 200points
Final exam: 100 points
Maximum points: 300 points
Final grade: 300 points/3=100 points

Depending on your participation in the class, an additional 0-5 points may be added to your final grade [0: no participation; 1: little participation; 2: some participation; 3: moderate participation; 4: good participation; 5: outstanding participation]. Please note that final grades may be adjusted to class performance.

<u>Undergraduates (UI)</u>		<u>Undergraduates (WSU)</u>		<u>Graduate Students (UI and WSU)</u>	
>90	A	>92	A	>92	A
>80	B	90-92	A-	>82	B
>70	C	88-89.9	B+	>75	C
>60	D	82-87.9	B	<75	D
<60	F	80-81.9	B-		
		78-79.9	C+		
		72-77.9	C		
		70-71.9	C-		
		60-69.9	D		
		<60	F		

*****Please note that the syllabus is subject to change including the dates of tests*****