

FOOD MICROBIOLOGY FALL 2012

FS 416 (UI)
MMBB 416 (UI)
FS 416 (WSU)

Day and Time: Tuesdays and Thursdays - 12:30-1:45 PM
Location: Life Science South (LSS) 163

Instructor: Dr. Gülhan Ünlü
Associate Professor
Department of Food Science and Toxicology
Office: Agricultural Biotechnology (AgBioTech) 205
Phone: 885-7771
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Credits: 3

Prerequisites: WSU: MBIOS 305; MBIOS 304; UI: MMBB 250, MMBB 255

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, 2nd edition, American Society for Microbiology (ASM) Press, Washington, DC

Student Office Hours: By appointment
Set up appointments via phone or email (preferred)
Location: Agricultural Biotechnology 205

FS Student Coordinator: Chanelle Denman
Office: Agricultural Science (AgSci) 111
Phone: 885-0707
Email: chanelled@uidaho.edu

Course Objectives:

Main Objective: Obtain a good understanding of food microbiology and become qualified for a food microbiologist position within the food industry or federal/state 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	8/26	Introduction / The Trajectory of Food Microbiology
2	R	8/28	Factors That Influence Microbes in Foods
3	T	9/2	Factors That Influence Microbes in Foods
4	R	9/4	Spores and Their Significance
5	T	9/9	Spores and Their Significance
6	R	9/11	Detection and Enumeration of Microbes in Foods
7	T	9/16	Rapid and Automated Microbial Methods
8	R	9/18	Indicator Microorganism and Microbiological Criteria
9	T	9/23	TEST 1 (PERIOD 1-8)
10	R	9/25	<i>Salmonella</i> Species
11	T	9/30	<i>Campylobacter</i> Species
12	R	10/2	Enterohemorrhagic <i>E. coli</i>
13	T	10/7	<i>Yersinia enterocolitica</i>
14	R	10/9	<i>Shigella</i> Species
15	T	10/14	<i>Vibrio</i> Species
16	R	10/16	<i>Enterobacter sakazaki</i>
17	T	10/21	<i>Listeria monocytogenes</i>
18	R	10/23	TEST 2 (PERIOD 10-17)
19	T	10/28	<i>Staphylococcus aureus</i>
20	R	10/30	<i>Clostridium botulinum</i>
21	T	11/4	<i>Clostridium perfringens</i>
22	R	11/6	<i>Bacillus cereus</i>
23	T	11/11	Fermentative Organisms
24	R	11/13	Spoilage Organisms
25	T	11/18	Molds
26	R	11/20	Viruses and Prions
27	T	11/25	FALL RECESS (NOVEMBER 24-28)
28	R	11/27	FALL RECESS (NOVEMBER 24-28)
29	T	12/2	Antimicrobial Chemicals / Biologically-based Preservation and Probiotic Bacteria
30	R	12/4	TEST 3 (PERIOD 19-26 & 29)
31	T	12/9	Physical Methods of Food Preservation*
32	R	12/11	Industrial Strategies of Ensuring Safe Food*

*Attendance will be recorded and taken into consideration when determining points for participation (see below)

No final exam will be given.

Final grades due: Monday, December 22

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 three tests. Tests will be worth 100 points each. 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.

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).

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:

3 tests:	300points
Maximum points:	300 points
Final grade:	300 points/3=100 points
Participation points:	0-5 points
Final grade w/participation points:	100-105

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.

Undergraduates (UI)		Undergraduates (WSU)		Graduate Students (UI and WSU)	
>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
<	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*****

Policies:

Exams must be taken on the date given. Make-up exams will be given only to those students who can demonstrate due cause for the absence. Students are expected to respect the opinions and rights of others—professional behavior is expected of all students. Cell phones and pagers must be silent during class. Food/beverage items are not allowed in our classroom.

“As an institution of higher education, Washington State University is committed to principles of truth and

academic honesty. All members of the University community share the responsibility for maintaining and supporting these principles. When a student enrolls in Washington State University, the student assumes an obligation to pursue academic endeavors in a manner consistent with the standards of academic integrity adopted by the University. To maintain the academic integrity of the community, the University cannot tolerate acts of academic dishonesty including any forms of cheating, plagiarism, or fabrication. Washington State University reserves the right and the power to discipline or to exclude students who engage in academic dishonesty.” Students found responsible for academic integrity violations may receive an F on the particular assignment or exam, as well as an F for the course. Repeated and/or serious offenses may result in referral to the conduct board and expulsion from WSU. For graduate students, academic integrity violations may also result in the loss of teaching and/or research assistantships.

Academic Integrity Statement and link to WSU’s policy: www.conduct.wsu.edu/default.asp?PageID=343

WSU: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All

accommodations MUST be approved through the Access Center.

UI: Reasonable accommodations are available for students who have documented temporary or permanent disabilities. Please notify your instructor(s) during the first week of class regarding accommodation(s) needed for the course. All accommodations must be approved through Disability Support Services located in the Idaho Commons Building, Room 306; phone 208-885-6307; email at dss@uidaho.edu; website at www.access.uidaho.edu. Students should present a completed and signed Accommodation Checklist for the current semester from Disability Support Services when requesting accommodations. This checklist should not be presented before or after class, but during office hours. If you do not have a current checklist both completed and signed, please go to Disability Support Services (Idaho Commons, Room 306) to obtain one.

Safety – <http://oem.wsu.edu/Emergencies.html>, and <http://alert.wsu.edu>

Campus Resources: [UI Library](#); [WSU Library](#); [UI Writing Center](#); [WSU Writing Center](#)