

FOOD MICROBIOLOGY FALL 2011

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

Day and Time: Tuesdays and Thursdays
12:30-1:45 PM

Location: TLC 046

Instructor: Dr. Gülhan Ünlü
Associate Professor
School of Food Science
University of Idaho

Office: Agricultural Biotechnology (AgBioTech) 205
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Credits: 3

Required Text: Food Microbiology: An Introduction, 2008, 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

Course Objectives:

1. Obtain a good understanding of food microbiology, including:
 - a. Pathogenic and spoilage microorganisms in foods
 - b. Beneficial microorganisms in food systems
 - c. Influence of the food system on the growth and survival of microorganisms
 - d. Control of microorganisms
2. Become qualified for (1) a food microbiologist position within the food industry or federal/state government and (2) graduate school to pursue research in the area of food microbiology.

Course Outline:

<u>Period</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>
1	T	8/23	Introduction / The Trajectory of Food Microbiology
2	R	8/25	The Trajectory of Food Microbiology
3	T	8/30	Factors That Influence Microbes in Foods
4	R	9/1	Factors That Influence Microbes in Foods
5	T	9/6	Factors That Influence Microbes in Foods
6	R	9/8	Spores and Their Significance
7	T	9/13	Spores and Their Significance
8	R	9/15	Detection and Enumeration of Microbes in Foods
9	T	9/20	Rapid and Automated Microbial Methods
10	R	9/22	Rapid and Automated Microbial Methods
11	T	9/27	Indicator Microorganism and Microbiological Criteria
12	R	9/29	Indicator Microorganism and Microbiological Criteria
13	T	10/4	TEST 1 (PERIOD 1-12)
14	R	10/6	<i>Salmonella</i> Species / <i>Shigella</i> Species
15	T	10/11	<i>Campylobacter jejuni</i>
16	R	10/13	Enterohemorrhagic <i>E. coli</i>
17	T	10/18	<i>Listeria monocytogenes</i>
18	R	10/20	<i>Staphylococcus aureus</i>
19	T	10/25	<i>Clostridium botulinum</i>
20	R	10/27	<i>Clostridium perfringens</i>
21	T	11/1	<i>Bacillus cereus</i>
22	R	11/4	TEST 2 (PERIOD 14-21)
23	T	11/8	Lactic Acid Bacteria and Food Fermentations
24	R	11/10	Lactic Acid Bacteria and Food Fermentations
25	T	11/15	Yeast-Based and Other Fermentations
26	R	11/17	Spoilage Organisms

27	T	11/22	FALL RECESS (NOVEMBER 21-25)
28	R	11/24	FALL RECESS (NOVEMBER 21-25)
29	T	11/29	Antimicrobial Preservatives
30	R	12/1	Biologically-based Preservation and Probiotic Bacteria
31	T	12/6	Physical Methods of Food Preservation
32	R	12/8	Industrial Strategies of Ensuring Safe Food
NA	T	12/13	FINAL EXAM (EXAM COVERAGE: PERIOD 22-26 & 29-32; EXAM TIME: 12:30-2:30 PM)
NA	T	12/22	FINAL GRADES DUE

Class Format: The format of the class will be a combination of lectures and class discussions.

Class attendance: Plan to attend every class and let the instructor know if you will not be able to attend. Attendance is not mandatory, but is monitored closely both informally and formally (random sign-up sheets). Attendance will be taken into consideration when determining class participation points (see below). Please let the instructor know if you will arrive late and/or leave early. If you cannot let the instructor know of your late arrival/early departure, please enter/exit the classroom without distracting your classmates.

Instructor specific expectations: Please turn off all electronics during class, including but not limited to cell phones and laptop computer. Please do not carry on side conversations, read the newspaper, study for another class, pass notes to classmates, etc. during class.

Class Notes: Notes Pages for PowerPoint presentations will be made available by email. You will be responsible for printing out your own set of the documents. Hard copies of any additional materials (e.g., visuals, articles, etc.) will be given to you on the day of the lecture. You will need to take some notes during lectures.

Guest Presentations: I may host one or more guest speakers. The dates of the guest presentations will be announced as they get 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 class.

Tests: There will be two tests and a final exam. They will be worth 100 points each and 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 in person. Once grading is complete, sign-up sheets will be available for 15-minute (max) test pick-up meeting with the instructor.

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).

Additional assignments: Assignments for home (optional) will be brief (1-3 pages) and are subject to grading. Scores are expected to contribute to the final grade as extra credit, especially for students with borderline grades.

University of Idaho Classroom Learning Civility Clause: In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, professors, guests, and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning.

Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern. Additional resources for expression of concern or requesting support include the Dean of Students office and staff (5-6757), the UI Counseling & Testing Center's confidential services (5-6716), or the UI Office of Human Rights, Access, & Inclusion (5-4285).

Reasonable Accommodation Statement:

WSU

Pullman Campus Syllabus Statement:

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Access Center (Washington Building 217) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

Distance Course Statement:

Reasonable accommodations are available for students with a documented disability. WSU Online and the Access Center work together to provide reasonable accommodations for students who have documented disabilities and who are registered both with WSU Online and the Access Center. WSU Online's liaison to the Access Center will assist you in getting started. To begin this process, contact WSU Online (800-222-4978 or distance@wsu.edu). We strongly recommend that you notify us as soon as possible. All accommodations must be approved through the Access Center.

Statements also at:

<http://accesscenter.wsu.edu/default.asp?PageID=5626>

Contact: Melynda Huskey melyndah@wsu.edu

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 885-6307; email at dss@uidaho.edu; website at www.access.uidaho.edu or www.webs.uidaho.edu/taap.

Plagiarism statement and link to WSU academic integrity statement: *Academic Dishonesty:* Cases of academic dishonesty shall be processed in accordance with the Academic Integrity Policy as printed in the *Washington State University Student Handbook, Faculty Manual*, and as available from the Office of Student Affairs.

PLAGIARISM:

Plagiarism is defined by Webster's Dictionary as, "to steal and pass off the ideas or words of another as one's own." There are two general forms of plagiarism:

(a) Unintentional: the use of other writers' words, phrases, sentences, paragraphs as though they were your own *without understanding* the need to cite the original source. Unintentional plagiarism normally occurs when the individual does not understand the conventions of scientific writing and the need to cite sources of information.

(b) Intentional: the use of other writers' work and claiming it as your own. Intentional plagiarism includes *knowingly copying* or incorporating sections of books, articles, or other sources into your work without citation.

To avoid plagiarism, you must acknowledge the source of information. In scientific writing, this can be performed in the text of your work through the use of surnames of authors and the year of publication or by using numbers enclosed by parentheses, which correspond to specific citations in the reference section. In addition to employing citations in the text, plagiarism can be avoided by applying special techniques when writing about information obtained from a source:

(a) Paraphrase: rewording information in which you accurately present the main ideas from the source but do so using your own organization, words, and sentence structures.

(b) Summary: a concise statement of the main idea from a section within a source.

(c) Direct quotation: use of quotes surrounding the passage written by another author.

In general, paraphrasing (a) and the use of summary statements (b) are very common techniques used in scientific writing. Use of quotations (c) in scientific writing is rare and should be avoided.

Plagiarism is dishonest and is **not** tolerated. If caught using all or portions of a current or former classmate's writing or other sources of information, a grade of "zero" will be given for the exercise. Additional penalties for plagiarism are possible as outlined in the *Washington State University Student Handbook*.

University of Idaho, Faculty Staff Handbook

ARTICLE II--ACADEMIC HONESTY. [section renumbered 8-07]

1. Cheating on classroom or outside assignments, examinations, or tests is a violation of this code.
2. Plagiarism, falsification of academic records, and the acquisition or use of test materials without faculty authorization are considered forms of academic dishonesty and, as such, are violations of this code.

3. Because academic honesty and integrity are core values at a university, the faculty finds that even one incident of academic dishonesty seriously and critically endangers the essential operation of the university and may merit expulsion. [rev. 7-98]

4. The operation of UI requires the accuracy and protection of its records and documents. To use, make, forge, print, reproduce, copy, alter, remove, or destroy any record, document, or identification used or maintained by UI violates this code when done with intent to defraud or misinform.

5. All data acquired through participation in UI research programs is the property of the university and must be provided to the principal investigator. In addition, collaboration with the University Research Office for the assignment of rights, title, and interest in patentable inventions resulting from the research is also required [see 5400 A through E].

6. Entrance without proper authority into any private office or space of a member of the faculty, staff, or student body is a violation of this code.

7. It is also a violation to hack or make unauthorized use of any computer or information system maintained by the university or a member of the faculty, staff, or student body. [rev.7-05]

8. Instructors and students are responsible for maintaining academic standards and integrity in their classes. Consequences for academic dishonesty may be imposed by the course instructor. Such consequences may include but cannot exceed a grade of "F" in the course. The instructor should attempt to notify the student of the suspected academic dishonesty and give the student an opportunity to respond. The notice and the opportunity may be informal and need not be in writing. Penalties for any disciplinary infraction must be judicially imposed. [See 1640.02 C-5] [rev. 7-98]

9. Instructors may report incidents of academic dishonesty to the dean of students. Upon receiving such a report, the dean of students shall provide the student with written notice that a report has been made and an opportunity to meet with the dean to discuss the report. The dean of students shall maintain the report and any record of the meeting for a period of time deemed appropriate by the dean. The dean of students may file a complaint against the student after the meeting has taken place or the student has elected, either affirmatively or through inaction, not to meet with the dean. [add. 7-98]

Grading:

2 tests:	200points
1 final:	100 points
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)

>90	A
>80	B
>70	C
>60	D
<60	F

Undergraduates (WSU)

>92	A
90-92	A-
88-89.9	B+
82-87.9	B
80-81.9	B-
78-79.9	C+
72-77.9	C
70-71.9	C-
60-69.9	D
<60	F

Graduate Students (UI and WSU)

>92	A
>82	B
>75	C
<75	D

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

HONOR STATEMENT

The following honor statement was taken from the website (<http://www.uihome.uidaho.edu/default.aspx?pid=56184>) of Dean of Students. Please include it on the cover of assignments before you submit it for evaluation.

“I attest that the work that I have submitted is my own. I have not cheated, plagiarized or received unauthorized assistance in order to complete this work. I understand that the University of Idaho faculty may assign an academic penalty for instances of academic dishonesty by for this work or the value of the entire course. The University of Idaho (or Washington State University) can also seek additional disciplinary action through the University Judicial System that may result in sanctions from warning through expulsion.”

Name _____

Date _____