Food Microbiology 440/540
Winter 2017

Instructor: Dr. Mahfuz Sarker
Contact Info: sarkerm@oregonstate.edu, 737-6918, Dryden 216
Office Hours: by appointment via e-mail.
Lecture: MWF 4-4:50 PM, Room: Cord 1109; **Course pre-reqs**: MB 302
Text: *Modern Food Microbiology*, 7th edition, by J. M. Jay, M.J. Loessner, and D.A. Golden.

Date	Lecture Title	Reading assignment (Chapter: Pages)	Notes
Jan 09	Introduction	**1**:3-8, **2**:13-20	
Jan 11	Intrinsic and extrinsic parameters of foods	**3**: 39-56	
Jan 13	Enumeration: Traditional methods	**10:** 217-233	
Jan 16	**Holiday**	**Martin Luther King**	
Jan 18	Enumeration: Chemical, Physical, Immunologic, Bioassay	**11:** 241-248, 269-275; **12**: 285-295	
Jan 20	Enumeration: Molecular	**11**: 256-268	
Jan 23	Preservation: Low Temperature/High temp	**16**: 395-410; **17**: 415-438	
Jan 25	Preservation: Radiation, Drying &Chemicals	**13:** 301-341; **15:** 371-390; **18:** 443-454.	
Jan 27	Preservation: High-Pressure Processing	**19**: 457-467	
Jan 30	**Library Presentation**	**Hannah Rempel**	
Feb 01	**Midterm I**		
Feb 03	Introduction to Food-borne Diseases	**22**: 519-539	
Feb 06	Staphylococcal gastroenteritis	**23**: 545-560	
Feb 08	Gram (+) spore-forming bacteria: *Clostridium perfringens*	**24:** 567-572	
Feb 10	Gram (+) spore-forming bacteria cont.: *C. botulinum*, *Bacillus cereus*	**24**: 573-585	
Feb 13	Food-borne Listeriosis	**25**: 591-611	
Feb 15	Foodborne gastroenteritis caused by *Salmonella & Shigella*	**26**: 619-634	
Feb 17	Food-borne gastroenteritis caused by *E. coli*	**27:** 637-650	
Feb 20	Food-borne gastroenteritis caused by *Vibrio*	**28**: 657-664	**Dr. Hase**
Feb 22	Food-borne gastroenteritis caused by *Yersinia & Campylobacter*	**28**: 664-671	**Dr. Hase**
Feb 24	**Midterm II**		
Feb 27	Fermentation and Lactic Acid Bacteria (LAB); Fermented Dairy products	**7:** 149-155 **7:** 161-169	
Mar 01	Food Safety Regulations		**Dr. Waite-Cusic**
Mar 03	**Graduate Presentations**	***E. coli* O157:H7 and *L. monocytogenes***	**Journal Assignments**
Mar 06	**Graduate Presentation**	***S. typhimurium* and *C. perfringens***	
Mar 08	**Graduate Presentation**	***C. botulinum* and *S. aureus***	
Mar 10	Probiotics & Prebiotics; Starter cultures & bacteriophage;	**7**: 161-169	
Mar 13	Mold and Mycotoxins	**2**: 27-29; **30**: 709-722;	
Mar 15	Food borne Viruses and Parasites	**31:** 727-740; 29: 679-702	
Mar 17	RECAP		
Mar 20	**Final Exam – 12:00 PM (noon)**		

GRADING:	Midterm I	50 pts.
	Midterm II	50 pts.
	Final Exam	50 pts.
	Journal assignment (undergrads) or Presentation (grads)	30 pts.
	In-Class/Attendance	20 pts.
	TOTAL	200 pts

Final grades are assigned on a straight percentage basis: 93-100% = A; 90-92% = A-; 87-89% = B+; 83-86% = B; 80-82% = B-; 77-79% = C+; 73-76% = C; 70-72% = C-; 67-69% = D+, 63-66% = D, 60-62% = D-, below 60% = F.

Exams: each exam is worth 50 pts and covers ≈⅓ of the lectures. The final is **not cumulative**, although some terms/concepts carry through the entire course. Exams are curved at instructor discretion.

Journal Assignment (undergrads): due March 03 by 5 pm. See Canvas for additional information/instructions.

Oral Presentation (grads): presentation slots are shown in the Syllabus. Three peer reviewed articles are due 1 week before assigned presentation date. A written abstract of the presentation is due on the assigned presentation date. See Canvas for additional information/instructions.

In-Class Points/Attendance: these points are awarded based on attendance taken in 10 random classes, including the library presentation by Hannah Rempel and graduate oral presentations.

Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should know, or who need special arrangements in the event of evacuation, should make an appointment with the instructor no later than the first week of the term. In order to arrange alternative testing the students should make the request at least one week in advance of the test. Students seeking accommodations should be registered with the Office of Services for Students with Disabilities.

MB 440/540 Course Policies

- **Turn off cell phones before entering lecture!**
- **No MP3 players/iPods in lecture or during exams.**
- **The instructor reserves the right to assign seats, either for individual students or for the class as a whole, as deemed necessary during lecture or exams.**
- **Class information**: sample exams, study guides, answer keys, etc will be posted on Blackboard at http://my.oregonstate.edu under **Course Documents**. Students must have an operational ONID account to access class material. **Sample exams** are from past years and may not accurately reflect material covered in class this term. They are provided simply to show what types of questions to expect.
- **Late work: No late work is accepted**, unless there are extenuating circumstances (see below)**.**
- **Missed exams**: make up exams are given at the instructor's discretion only. Walking in late (after any MB 440/540 student has completed the exam) constitutes missing the exam.
- **Taking midterms early**: at instructor's discretion only. Students need to make their request at least 1 week before the regularly scheduled exam, but preferably as soon in the term as possible. This offer is not available for the final exam.
- **Journal assignment:** students must write answers in their own words. Students who turn in identical answers or answers copied directly from other sources will receive no credit.
- **Grading:** it is the student's responsibility to look over all graded papers carefully (graded papers may be picked up from Dr. Sarker's office, once scores have been posted on Blackboard). Students have 1 week from the time that scores are posted on Blackboard to contest a score. Any grade adjustments made after the 1 week period are at the instructor's discretion.
- **Extenuating Circumstances:** exceptions to the course policies will be made only in the case of truly exceptional circumstances (serious illness, death in the immediate family, car accident, etc) that are

documented (i.e. doctor's note). The instructor retains to right to decide whether circumstances are extenuating or not.

The following information is summarized from the OSU Student Conduct Regulations:
Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:

*cheating- use/attempted use of unauthorized materials, information or study aids
*fabrication- falsification or invention of any information
*assisting- helping another commit an act of academic dishonesty
*tampering- altering or interfering with evaluation instruments and documents
*plagiarism- representing the words or ideas of another person as one's own

When evidence of academic dishonesty comes to the instructor's attention, the instructor will document the incident, permit the accused student to provide an explanation, advise the student of possible penalties, and take action. The instructor may impose any academic penalty up to and including an "F" grade in the course after consulting with his/her department chair and informing the student of the action taken.

The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student's freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office.

HOW TO SUCCEED IN THIS COURSE:

1. Attend class and stay the entire period.
2. Be organized. Keep track of when assignments are due.
3. In the 5-10 minutes before class, skim the previous day's notes to put you in the proper mindset. This will also help with in-class questions.
4. Listen in class and fill in the printed notes with extra information as necessary.
5. After class read the text to fill in any holes.
6. Before the exams, review lectures and try practice exams. Do not wait until the night before to cram for these exams.
7. Turn in assignments on time. Late assignments are not accepted.

STUDENT OUTCOMES FOR THE COURSE:

1. Retain specialized language relevant to food microbiology.
2. Demonstrate basic knowledge about Food Microbiology and Food-borne pathogenic microorganisms in general and detailed understanding of important aspects of the role in human disease and food contaminations.
3. Demonstrate understanding of research methods that permits them to read articles from current journals extract pertinent information and judge the quality of the work described.
4. Retain key concepts relevant to food microbiology and food-borne microbial pathogens.
5. In addition to the previously described learning outcomes, graduate students will communicate scientific concepts and analytical arguments clearly and concisely, both orally and in writing.