

MBIO 4600 Food Microbiology
MWF 9:00A – 9:50A, S137 Spring 2015

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Office hours	M 10:00A-11:30A, T 9:00P-10:30P, or by appointment
E-mail	mthao@csustan.edu <ul style="list-style-type: none">• This is the best method to contact instructor regarding emergencies, setting up an appointment, or for questions with very short answers. Please ask complex questions during the lecture or office hours. Questions regarding grades and/or those answered on the syllabus will not be acknowledged.• Include your name and the course number in the subject line.
Webpage	moodle.csustan.edu

Course Description: Study of the relationship of microorganisms to food-borne disease, food spoilage, and food production as well as food preservation.

Course objectives:

At the end of this course, students will know:

1. The parameters that influence microbial growth in foods.
2. The causes of food spoilage and food-borne microbial diseases.
3. The measures necessary to control spoilage and food-borne illnesses including food preservation to increase the shelf-life of foods.
4. The use of microorganisms in food production

COURSE REQUIREMENTS

Prerequisites: MBIO 3010 or equivalent

Required Text: There is no required text. Students may use the following books as reference.

- Jay, James M. 2005. *Modern Food Microbiology*, 7th Edition. Springer Science + Business Media, Inc.
- Doyle, Michael P. 2001. *Food Microbiology: Fundamentals and Frontiers*, 2nd Edition, ASM Press.

ADD/DROP Policies: add/drop policies for this class are the same as the university add/drop policies, please consult the Class Schedule for more detail.

Course Etiquette:

1. Arrive prepared and on time for class.
2. Turn off and put away all cell phones and pagers. No cell phone will be allowed out at any time. If they are taken out, they will be confiscated.
3. Please do not carry on conversations with your neighbors once class has started. Such behavior is highly disrespectful and very distracting to me and to the other students around you.

Grading Policies:

1. **Academic Dishonesty and Misconduct:** There is zero tolerance for cheating. Cheating in any capacity in this class will result in penalties ranging from a minimum of a zero on the assignment or exam to a maximum of expulsion from California State University, Stanislaus as indicated by the official University Policy regarding dishonesty and misconduct. Exams, reports, and/or other assignments are indicators of individual performance. Copying off of another student's exam, plagiarized reports, or other assignments constitutes cheating. If your phone rings during the exam, ten (10) points will be deducted from your exam score. Taking out a cell phone during an exam is considered cheating, your exam will be confiscated, and you will receive zero points for that exam.

2. **Regular class attendance is vital to your success in this course.** You are expected to attend class regularly, come to class on time, and complete assigned readings. Attendance requires not only your physical presence, but your attention and participation as well. Students who are physically present, but inattentive (including, but not limited to, sleeping, excessive conversation, texting, e-mailing, web-surfing, being disruptive, arriving late, leaving early, etc.) may be asked to leave. Excessive absences or tardiness may result in disenrollment or reduction of grade. You are responsible for any information or assignments you missed in your absence.
3. You are expected to study regularly, and to consult your notes when you have a question. Your instructor will be happy to answer questions once you have made an honest effort to do so on your own. A question may sometimes be answered with a question, or your fellow classmates may be called upon to help answer it. This is to lead you to the answer, not embarrass you.
4. **Exams:**
 - a. Exams are written with the course objectives in mind. Because the information in this course cannot be divided into separate, discreet units, exams will be comprehensive and to some extent, be cumulative. There will be three midterms (75 points each) and a final (150 points).
 - b. Note: Exam date/time changes will be made only in case of an emergency or if they conflict with official university activities. **Do not** schedule any appointments, nor make any travel plans that conflict with a scheduled exam.
 - c. Questions that may appear on exams include multiple choice, matching, short answer, discussion, problem-solving and case study interpretation. You will need Scantron form # 882-E for the exams. Note that:
 - i. Only answers on the Scantron will be graded, so transfer answers carefully
 - ii. Take care to erase well those answers you do not want marked
 - iii. Illegible answers in written portion will not be graded.
 - iv. Correct spelling and grammar are necessary for effective communication. Therefore, spelling and/or grammatical errors will result in loss of points on exams.
 - d. Unless otherwise stated, exams will begin at the beginning of the scheduled class time. **If you are late then you will have less time to complete the exam. Traffic and/or car problems are not acceptable excuses for being late.**
 - e. You will not be allowed to leave the room until you have finished and turned in your exam.
 - f. You must turn off cell phones and remove baseball caps during exams. If your cell phone rings during an exam five (5) points will be deducted from your score. Cell phones must be put away during exams. Taking out a cell phone during an exam is considered cheating, your exam will be confiscated, and you will receive a grade of F in the course.
 - g. After graded exams have been returned, you have one week to review exams or dispute errors; no grades will be changed after that time.
5. **Make-up exams only given under extenuating circumstances and only with proper documentation.**
 1. Make-up exams may be different than the exam given in class. Failure to appear at exam time without 24 hours prior notice to instructor with an appropriate excuse, or an appropriately documented emergency, will result in zero points for that exam. If you miss an exam for a legitimate emergency it is still your responsibility to notify the instructor as soon as practical. Under no circumstances will you be allowed to take an exam once it has been handed back. It is **your** responsibility to notify the instructor **prior** to missing an exam and to supply him with a valid, **written** excuse.

5. Total points for course = 510

Assignment	Points	
3 exams (75 pts each)	225	Note: Presentations are required of all students. Students who do not present will have additional points equal to that of the assignment will be deducted from the total class score.
Outbreak presentation	55	
Paper Presentation	55	
Participation	25	
Comprehensive final exam	150	

6. **Grading** will be based on a percent scale:

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+, 60-66 = D, < 60 = F

Note:

- Take care of your grade. Remember you earn your grade; it is not given to you.
- Grades/scores will not be sent to students via email or be given over the telephone.
- Instructor will not calculate student's scores/grade.
- The instructor reserves the right to reduce your grade due to excessive absences and/or tardiness.

7. **Absolutely no late assignments will be accepted.** Presentation must be turned in presented on the assigned date or else it will be considered late and you will lose points as stated above.

8. **Course Page**

Information for the course (**Lecture notes**, objectives, and/or ppt lectures exam scores, syllabus, related materials, etc.) can be found on the course's Moodle page (moodle.csustan.edu). Lecture materials are **copyrighted** and are only for the personal use of students enrolled in the course. **Do not** give the username/password to anyone else. If you do, **no more** material will be provided.

How to enroll in Moodle:

- Go to the Moodle site - moodle.csustan.edu.
- Under Course Categories, locate and click on the course you need to enroll in - Microbiology, then MBIO 4600: Food Microbiology.
- Create a Moodle account (this will be different than your CSU Stan login account). . Please remember your login and password. After your account is created and confirmed you will be able to view your Moodle course site
- Enter the enrollment key (i.e., password) for the course. The enrollment key is: mbio4600001.
- Once enrolled, go to your 'Profile Settings > Edit Profile'. Make sure that the information there is accurate (e.g., your full name has been entered, your email address is correct). At the bottom of the page enter your student identification number.

Note: Students who fail to correctly register for the Moodle page by February 11, 2013 will be dropped from the class.

***Note:**

- 1. No laptops, cameras, cell phones, or any other recording devices allowed in class.**
- 2. Audio\Video Recording** of lectures is not permitted without written consent from your instructor.

Guidelines for oral presentations (content and delivery are both important)

1. Preparation and knowledge of materials
 - Do your home work to fill in gaps of knowledge - resources outside of paper
 - Anticipate questions that may be raised, find answers
 - When reading paper, be critical of techniques/methods used, results obtained and conclusions drawn based on results
2. Organized the presentation to flow from one section to another.
 - Break down procedures, results etc. According to questions/objectives
 - Sufficient introduction to topic and problem
 - Clear statement of objectives/goals
 - Clear explanation of experiments (methods and procedures used)
 - Clear explanation of results
 - Detail explanation using figures and tables as visual aids
 - Use pictures to illustrate what you are speaking about
 - Discuss result and draw conclusion
3. Rehearse the presentation to run in the allotted time
 - Speak clearly, loud enough to be heard and do not talk too fast (happens when one is nervous)
 - Have variety in your voice (tone)
 - Don't speak in a monotone or mumble.
4. Avoid distracting body movements.
 - Avoid cracking knuckles, jingling keys in pocket, using laser pointer inappropriately, etc.
 - Do use hand gestures
5. Do move around, instead of remaining in a "frozen" state
 - Avoid fidgeting, swaying or rocking in place.
 - Avoid having your back to the audience.
 - Avoid pacing or moving around so much to make the audience dizzy.
6. Make and maintain eye contact with the audience.
 - Make eye contact with every person in the room
 - Plug into the audience's brain
7. Make short notes but avoid reading your presentations - slides or notes
8. Display enthusiasm and genuine concern for your subject.
9. Avoid grammar errors, misspellings, typos in presentation
 - Unacceptable because of grammar and spell check
 - Shows audience your indifference
10. Avoid too many distracting "Uh"s & "Like"s, etc.

Practice, practice, practice! The more prepared you feel, the less nervous you'll be.

Tentative Lecture Schedule (open to revision)

DATE		SUBJECT
Jan	28	Introduction to course
	30	Introduction to food microbiology and the history of microorganisms in food
Feb	2	Introduction to Food-borne diseases
	4	
	6	Gram negative food-borne pathogens
	9	
	11	
	13	
	13	Gram positive food-borne pathogens
	16	
	18	Food- and water-borne viral diseases
	20	
	23	
	23	Protozoa in food
	25	Parasitic worms in foods
27		
Mar	2	Exam I
	4	Prions in foods
	6	Fungal toxins in foods; Outbreak presentations due!
	9	Student outbreak presentation (3/lecture period) - number of days may change based on final number of students enrolled
	11	
	13	
	16	Parameters affecting growth and survival of microorganisms in food: Temperature
	18	
	20	Water activity
	23	
25	Low pH: Acids	

DATE		SUBJECT
Mar	27	Low pH: Acids (cont'd)
	30	Exam II
Apr	1	Field assignment: paper selection
	3	
	6	Spring break!
	8	
	10	
	13	
	13	Paper selection due; Atmosphere (oxygen)
	15	
	17	Controversial preservatives
	20	Microbial spoilage patterns
	22	
	24	
	24	Lactic acid fermentation
27		
29	Complex fermentations	
May	1	
	4	Exam III
	6	Food safety control measures and legal issues; Paper presentations due!
	8	
	11	Student paper presentation (3/lecture period) - number of days may change based on final number of students enrolled
	13	
	15	
20	Final exam (150 points) 8:30A -10:30A	