

# MBIO 2010/2012 Microbiology for Nursing Fall 2018

Lecture MWF 9:00A-9:50A N221

Laboratory W 10:00A-12:50P N331

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<b>Instructor</b>	My Lo Thao, Ph.D.
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<b>Office hours</b>	M 10:00A-11:00A, F 11:00A-12:00P
<b>E-mail</b>	<a href="mailto:mthao@csustan.edu">mthao@csustan.edu</a> <ul style="list-style-type: none"><li>• best method to contact instructor</li><li>• please include your name and the course number in the subject line.</li></ul>
<b>Webpage</b>	<a href="http://moodle.csustan.edu">http://moodle.csustan.edu</a>

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## **Course Description:**

An introduction to the basic concepts and principles of microbiology as it affects human health. Topics include the process of disease transmission, immunology, physical and chemical methods of disease prevention and control, as well as major infectious diseases of the body systems.

**Purpose:** This course is intended to provide a knowledge base in the discipline of microbiology to allied health students. The course will cover basic concepts and principles of microbiology and their application to human diseases and infection control. Knowledge acquired in lecture will facilitate laboratory exercises which will demonstrate practical laboratory skills pertaining to basic microbiology and the healthcare arena.

## **Learning objectives:**

At the end of this course, students will:

- know the basic groups of microorganisms with an emphasis on bacteria and their relation to human health
- be able to identify basic structures of microorganisms and the specific functions of these structures
- be able to describe basic terminology and physiology as it applies to microorganisms
- be able to associate specific microbes with specific human diseases
- be able to describe the specific and non-specific mechanisms of host defenses
- be able to describe the epidemiology of human microbial infection
- be able to perform basic techniques used to culture, identify and control microorganisms

## **Course requirements**

**Course Prerequisite:** Pursuit of a Nursing program and the successful completion of two of these three courses - chem/biochem for nurses, anatomy and/or physiology. Students must have completed the prerequisite courses and be pursuing a Nursing degree. Other students may be admitted at the instructor's discretion.

**Major texts or resource materials:** Bundled package containing

- *Laboratory Manual and Workbook in Microbiology: Applications to Patient Care*, Josephine A. Morello, *et al.* Twelfth edition.
- *Connect/LearnSmart* online resources (McGraw Hill) with ebook for *Microbiology: A Human Perspective*, Eugene W. Nester, *et al.* Eighth edition.

**Laboratory reports:** Laboratory reports are due on the day of the laboratory final exam. The instructor may ask to review your laboratory manual any time during the semester. Laboratory reports will be worth a total of 50 points.

**Connect/Learnsmart online homework:** Assignments and due dates are as stipulated online. **You** are responsible for keeping track of when the assignments are due. **No late assignments will be accepted, no exceptions.** Please see information sheet on the last page on how to enroll.

**Note:** Students who fail to correctly register by 5 pm on September 7, 2018 may be dropped from the class.

**Add/Drop Policies:** **The census date is September 19<sup>th</sup>.** The add/drop policies for M BIO 2010/2012 are the same as the University add/drop policies.

**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, lab reports, 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 having completed assigned readings and online assignments. 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. Laboratory attendance is mandatory and missing more than 2 lab sessions (includes excused absences) may result in a failing grade in the course, even if you are passing. You are responsible for any information or assignments you missed in your absence.
3. **Exams:**
  - Exams are written with the course objectives in mind. Because the information in this course cannot be divided into separate, discreet units, exams will, to some extent, be cumulative.
  - 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 the written portion will not be graded.
    - iv. Correct spelling and grammar are necessary for effective communication. Therefore, spelling and/or grammatical errors may result in loss of points on exams.
  - Unless otherwise stated, exams will begin at the beginning of the scheduled class time. If you are tardy, you will not be given extra time to finish the exam.
  - Once the exam starts, you will not be allowed to leave the room until you have finished and turned in your exam.
  - After graded exams have been returned, you have one week to review exams or dispute errors; no grades will be changed after that time.
4. **Make-up exams only given under extenuating circumstances and only with documentation:**
  - Make-up exams may be different and may consist only of short answers and essay questions. 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.

4. **Total points for course = 700**

- Your final grade will be based on scores earned on four lecture examinations, a final lecture examination, laboratory reports, a final laboratory practical exam, and the Connect/LearnSmart online homework as follows:

4 exams (75 pts each)	300 pts
Connect/LearnSmart online homework	75 pts
Comprehensive final exam	150 pts
Lab Practical Exam I	75 pts
Final Lab Practical Exam	50 pts
Lab Reports	50 pts

5. **Grading** will be based on a percent scale as follows: 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: Instructor does not give or assign grades. Students earn their grades, so take care of your grade.**

6. **Course Page:** Information for the course (Lecture notes, objectives, exam scores, syllabus, related materials, etc.) can be found on the course's Moodle page ([moodle.csustan.edu](http://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 so **no more** material will be provided. To enroll in Moodle:

- Go to the Moodle site at <http://moodle.csustan.edu>.
- Under Course Categories, locate and click on the course you need to enroll in - MBIO 2010: Microbiology for Nursing.
- At the login screen, enter your **Warrior ID and Password** to log in.
- Next, in the box labelled "Self-enrollment (Student)" use the following key: **micronurse\_fa18** and you will be able to access the class site.

If you have any problems logging in or enrolling, please email Glenn Pillsbury ([moodleadmin@csustan.edu](mailto:moodleadmin@csustan.edu)), our Moodle administrator."

**\*Note: No laptops, tape recorders, cameras, mp3s, ipods or cell phones are allowed in class (lecture and lab).**

**Course etiquette:**

- Arrive prepared and on time for class.
- Turn off all cell phones and pagers. If your phone rings during exams, 10 points will be deducted from your total exam score.
- 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.

**Tentative Lecture Schedule (open to revision)**

Date		Chapter Reading	Topic
Aug	22		Introduction and course overview
	24	1	Humans and the microbial world
	27		Humans and the microbial world (cont'd)
	29	2	The molecules of life
	31		The molecules of life (cont,d)
Sept	3		<b>Labor Day</b>
	5	3	Microscopy and cell structure
	7		Microscopy and cell structure (cont'd)
	10		Microscopy and cell structure (cont'd)
	12	4	Dynamics of microbial growth
	14		Dynamics of microbial growth (cont'd)
	17		<b>Exam I (75 pts) (Chs. 1-4)</b>
	19	5	Control of microbial growth; <b>Census day</b>
	21		Control of microbial growth (cont'd)
	24	6	Metabolism: Fueling microbial growth
	26	7	The blueprint of life, from DNA to protein
	28	8	Bacterial genetics
	Oct	1	9
3		10	Identifying and classifying of microorganisms
5		11	The diversity of prokaryotic organisms
8			<b>Exam II (75 pts) (Chs. 5-10)</b>
10			<b>Holiday</b>
12		12	The eukaryotic members of the microbial world
15		13	Viruses, viroids, and prions
17		14	The innate immune response
19		15	The adaptive immune response
22		16	Host - microbe interactions
24			Host - microbe interactions (cont'd)
26		19	Epidemiology
29			<b>Exam III (75 pts) (Chs. 11-15)</b>
Nov		31	17
	2	Immunologic disorders (cont'd)	
	5	18	Applications of the immune responses
	7	20	Antimicrobial medications
	9		Antimicrobial medications (cont'd)
	12		<b>Holiday</b>
	14	21	Respiratory system infections
	16		Respiratory system infections (cont'd)
	19	22	Skin infections
	21		<b>Exam IV (75 pts) (Chs. 16-20)</b>
	23		<b>Thanksgiving holiday</b>
	26	23	Wound infections
	28	24	Digestive System infections
30	Digestive System infections (cont'd)		
Dec	3	25	Blood and lymphatic infections
	5	26	Nervous system infections
	7		Nervous system infections (cont'd)
	10	27	Genitourinary infections
	14		<b>Final Exam (150 pts) 8:30A-10:30A</b>

**Tentative Laboratory Schedule (open to revision):**

<b>Date</b>		<b>Lab exercise</b>	<b>Laboratory Topic</b>
<b>Aug</b>	<b>22</b>	Pages ix-xi	Orientation to the laboratory Safety lecture Drawer check-in
	<b>29</b>	1	The microscope
<b>Sept</b>	<b>5</b>	2	Handling and examining cultures
	<b>12</b>	3	Wet mount preparations Simple stains
	<b>18</b>	4	Gram stain
		5	Acid-fast stain
<b>26</b>	6	Special stains: Capsule, flagella and endospore	
<b>Oct</b>	<b>3</b>		Cultivation of Microorganisms
		7	Culture media
		8	Streaking technique
		9	Subculture techniques
	<b>10</b>		<b>No class</b>
	<b>17</b>		Results
	<b>24</b>		<b>Lab exam I (75 points)</b>
10 11		Physical methods: Moist and dry heat The autoclave	
<b>31</b>	12	Chemical methods: Disinfectants	
	13	Antimicrobial agent susceptibility testing Agar disk diffusion method	
		Broth dilution method	
<b>Nov</b>	<b>7</b>		Results
	<b>14</b>	14	Culture of clinical specimens
		15	Primary media for isolation Some metabolic activities of bacteria
	<b>21</b>	16	Activities of bacterial enzymes
<b>28</b>	16	Movie, Finish lab exercises	
<b>Dec</b>	<b>5</b>		<b>Laboratory Final Examination (50 points)</b> <b>Laboratory Reports Due (50 points)</b> <b>Check out of lab</b>

## **Expectations of Microbiology students in the laboratory:**

1. **Come to lab prepared:** We do a lot of different stuff in these labs and sometimes you will have many experiments going on at the same time but the lab experiments can be finished in the allotted time if you read the laboratory exercises and have a reasonably good idea of the game plan for a particular lab before coming to class.
2. **You are responsible for all lab reports for the experiments unless otherwise notified.** On the occasion that the entire experiment is not performed, or changes have been made in the technique or organisms used from those listed in your lab manual, you are responsible for the part that is performed and noting the changes in your lab manual.
3. **Take notes during introduction by instructor.** This is a synopsis of what's going on in lab including changes that were made to lab protocols. The lab exercises may seem self-explanatory while you're in lab but when you're at home trying to work on your lab notebook you may find it useful to have all the material in your lab book. Also some experiments may take several days to complete, so you need to keep organized, accurate notes of what you have done.
4. **Stay on top of completing you lab notebooks.** If you wait too long you may forget what you did or what the results were.
5. **Work with and communicate with me** – do not hesitate to ask any question. If you are unsure about something, ask before you do for your own safety and the safety of others.
6. **Work with and communicate with your lab partner** – when working as a group, it's easy to fall into the “I thought you were doing that” syndrome, so be clear about who is doing what. Furthermore, even when you are working with others on an experiment you must also be familiar with all parts of the exercises.
7. **Arrive on time** – You may miss important instructions for the lab exercises, and it is also disruptive to the class. Partners will arrive together and leave together, especially important for the exercises for which you will be working in groups.
8. **No use of cell phones, Ipods, MP3 players or other electronic gadgets during lab** – All should be put away in backpack; turn all cell phones and pagers off before coming to lab. If you have an emergency situation and are waiting for a call, please let me know at the beginning of lab. If you need a calculator, bring one. You are not allowed to use your phone to take pictures or as a calculator or timers, or any other reason at any time. If cell phones taken out, they will be confiscated and/or you will be asked to leave lab.
9. **Obey all laboratory safety rules!**
  - a. **No food or drink in lab.** Water bottles are to be inside of backpacks only.
  - b. **Closed toed shoes** must be worn in the lab, students without closed toe shoes will be asked to leave and this will constitute an absence.
10. **Have fun, have a good attitude and put in your best effort!**



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## student registration information course

MBIO 2010 Microbiology for Nursing  
with LearnSmart and LearnSmart Prep

## instructor

My Lo Thao

## section

Fall 2018

## registration dates

08/20/18 - 09/07/18

## online registration instructions

Go to the following web address and click the "register now" button.

<http://connect.mheducation.com/class/m-thao-fall-2018-1>

This is a unique address for  
**Fall 2018**

Having trouble registering?  
Get help here: <http://bit.ly/StudentRegistration>