

## MLS 4300 Clinical Microbiology Winter Term 2018

**Day/Time** TR 10:00-11:47 am  
**Location** Human Health Building 1006  
**Instructor** Christina Lim, MS, MLS(ASCP)SM  
lim@oakland.edu  
**Office Hours** TR 12-1:00 pm HHB 5016

**Course Description** A thorough background in clinical microbiology including the cultivation, identification, epidemiology, disease pathogenesis, virulence, and control of microorganisms.

**Course Objectives** Upon completion of this course the student will achieve the ability to:

- Describe the taxonomy, structure, and classification of bacteria.
- Describe microbiology lab safety procedures including the proper handling of bioterrorism agents.
- Describe how specimens for microbiology workup are processed including staining, media for cultivation, and proper environments for incubation.
- Explain the principles of the different microscopic and staining techniques and the appropriate situation to use each method.
- Describe the methods used in antimicrobial susceptibility testing.
- Determine the common antibiotics used to treat infections by clinically significant bacteria.
- Explain the principles of antimicrobial action and resistance, and describe human practices that may have contributed to the development of antimicrobial resistance.
- Define and describe the different interactions between the host and the microorganism and analyze how these interactions influence the health of the human host.
- Describe the diseases and pathologic manifestations caused by the clinically significant bacteria and explain the mechanism of their pathogenesis and virulence.
- Determine the appropriate specimen, cultivation techniques, biochemical, and enzymatic tests required to identify clinically significant organisms.
- Synthesize clinical, pathological, and laboratory data to make a basic diagnosis.

**Required Text** Bailey & Scott's Diagnostic Microbiology, 14th edition. P. Tille. ISBN 9780323354820

**Supplemental materials** I will use current clinical journals and the CDC and WHO websites to supplement the textbook to provide you with the most up-to-date information. These references will be made available to you.

**Course Format** A combination of lectures and case studies. Case studies are on-line assignments that will reinforce the student's understanding of the lecture materials, and will assess the student's ability to synthesize and discuss clinical microbiology information. Regular class attendance and participation will help you in formulating fully developed answers on the case study questions. The exams will be a combination of multiple choice and short answer questions. The final exam format will be all short essay questions. No scantrons needed. Exam questions will come from all lecture materials (including the explanations given in class and the case studies.) Major themes focused on are microbial virulence, pathogenesis, epidemiology, and lab identification. Exam objectives will be provided to supplement your study.

## Course Grading

Exam 1	100
Exam 2	100
Exam 3	100
Exam 4	100
Final Exam	100
Case Studies	75
<b>Total Points</b>	<b>575</b>

Adjusted to percentile grading format

## Class Policies

- The university policy will be explicitly followed regarding academic conduct including plagiarizing and cheating on exams and other in-class or online assignments. Refer to the [academic conduct policy webpage](#) for a detailed information.
- OU policy regarding add/drops will be followed. It is the student's responsibility to be aware of all OU deadline dates. ([Link to Winter 2018 important dates](#)).
- In accordance with professional behavior, regular class attendance and participation is expected. Students are expected to prepare for and take the exams at the scheduled date and time. Case studies must be turned in by the due date and time; assignments that are submitted after will **not** be graded.
- If you have technical issues in Moodle, contact the Moodle help desk first. They will notify me of the problem and we will work together to resolve the issue.

ELIS Student page <http://www2.oakland.edu/elis/page.cfm?id=2217>

Help Request Form <http://www2.oakland.edu/elis/help.cfm?formname=moodle>

## Grading Scale

Percent	Grade Point
97.00 - 100%	4.0
96.00 - 96.99	3.9
94.00 - 95.99	3.8
92.00 - 93.99	3.7
90.00 - 91.99	3.6
89.00 - 89.99	3.5
88.00 - 88.99	3.4
86.00 - 87.99	3.3
84.00 - 85.99	3.2
82.00 - 83.99	3.1
80.00 - 81.99	3.0

Percent	Grade Point
79.00 - 79.99	2.9
78.00 - 78.99	2.8
77.00 - 77.99	2.7
76.00 - 76.99	2.6
75.00 - 75.99	2.5
74.00 - 74.99	2.4
73.00 - 73.99	2.3
72.00 - 72.99	2.2
71.00 - 71.99	2.1
70.00 - 70.99	2.0
69.00 - 69.99	1.9

Percent	Grade Point
68.00 - 68.99	1.8
67.00 - 67.99	1.7
66.00 - 66.99	1.6
65.00 - 65.99	1.5
64.00 - 64.99	1.4
63.00 - 63.99	1.3
62.00 - 62.99	1.2
61.00 - 61.99	1.1
60.00 - 60.99	1.0
0.00 - 59.99	0

MLS 4300 Clinical Microbiology Lecture Schedule Winter Term 2018

Schedule by Week	Lecture Topics and Assessments	Textbook Chapters
Week 1 1/1	R Introduction to Microbiology Specimen Handling and Lab Safety	1, 2, 7 4, 5, 7
Week 2 1/8	T Staining and Microscopic Diagnosis Diagnostic Methods in the Microbiology Lab R Host-Microbe Interactions Staphylococci	6 7, 8, 9 3 13
Week 3 1/15	T Streptococci and Enterococci R 1/18 Case study 1 due by 11 am. No in-class meeting.	14
Week 4 1/22	T 1/23 Exam 1 <b>Start of Exam 2 Material:</b> R Principles of Antimicrobial Action and Resistance Antimicrobial Susceptibility Testing	10 11
Week 5 1/29	T Aerobic Gram Positive Bacilli R Gram Negative Bacilli - <i>Enterobacteriaceae</i>	15, 16, 17 19
Week 6 2/5	T 2/6 Case study 2 due by 11:47 am. No in-class meeting. R 2/8 Exam 2	
Week 7 2/12	<b>Start of Exam 3 Material:</b> T Non-fermenting Gram Negatives <i>Neisseria, Moraxella</i> R Fastidious Gram Negatives	20, 21, 24 27, 39 28-32, 34-37
Week 8 2/19	Winter Recess	
Week 9 2/26	T <i>Vibrio, Aeromonas, Plesiomonas, Campylobacter</i> and <i>Helicobacter</i> R 3/1 Case study 3 due by 11:47 am R 3/1 Exam 3	25, 33
Week 10 3/5	<b>Start of Exam 4 Material:</b> T Spirochetes Obligate Intracellular and Cell Wall-Deficient Bacteria R Mycobacteria and other Acid Fast Organisms	45 43, 44 42, 18
Week 11 3/12	T Anaerobes R 3/15 Case study 4 due by 11:47 am. No in-class meeting.	40, 41
Week 12 3/19	T 3/20 Exam 4 <b>Start of Final Exam Material:</b> R Diagnosis by Organ System: Bloodstream	67
Week 13 3/26	T Diagnosis by Organ System: Respiratory tract R Diagnosis by Organ System: CNS	68, 69 70
Week 14 4/2	T Diagnosis by Organ System: Urinary and Genital tracts R 4/5 Case study 5 due by 11:47 am. No in-class meeting.	72, 73
Week 15 4/9	T Diagnosis by Organ System: GI tract R Diagnosis by Organ System: Eye, Ear, Skin, Soft tissue	74 71, 75
Week 16 4/16 Finals	R 4/19 Final Exam 8-11 am	