MLT 3787 - Diagnostic Microbiology

Fall 2026 Syllabus, Section 01, CRN 41298,

Credit hours: 3

Instructor

Joan O'Connell

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Public Instructor Information

Instructor Title: Dr Joan O'Connell

Associate Professor/Chairperson Department of Clinical and Diagnostic Health Sciences

- Instructor Professional Qualifications:
- Doctor of Education/Educational Leadership-Youngstown State University 2021
- Master's/Curriculum and Instruction-Youngstown State University 2011
- Bachelor of Science degree Medical Laboratory Science - Youngstown State University 1992

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Course Description

3787. Diagnostic Microbiology. Clinical applications of human pathogenic microorganisms; infections, frequency, isolation, identification, and treatment of bacteria, fungi, viruses, and parasites. Case studies, problem solving, and quality assurance in clinical microbiology. Three hours lecture per week. Prereq.: MLT 1501, MLT 1501L. Coreq.: MLT 3787L . 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Introduction to Diagnostic Microbiology for Laboratory Sciences		

Delost, Introduction to Diagnostic Microbiology for the Laboratory Sciences, Jones & Bartlett Learning, 2nd edition (2022)

ISBN:9781284199734

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25	Chapter 1: pages 1-16	Review syllabus & course requirements. Taxonomy, the Microbial Cell, Metabolism & Genetics.	
Thu	8/27	Chapter 3: 33-41	Host & Microorganism Interaction	
Tue	9/1	Chapter 3: 33-41	Host & Microorganism Interaction	

Thu	9/3	Chapter 4: 53-68	Specien Collection and Management	Quiz 1 chapters 1 and 3 due 9/6
Tue	9/8	Chapter 7 95-115	Immunochemical and Molecular Methods	
Thu	9/10	Chapter 9: 151-168	Staphylococcus & other catalase positive gram positive cocci	
Tue	9/15	Chapter 9: 151-168	Staphylococcus & other catalase positive gram positive cocci	
Thu	9/17	Chapter 10: 169-177	Streptococcus, Enterococcus, & Related Organisms	
Tue	9/22	Chapter 10: 169-177	Streptococcus, Enterococcus, & Related Organisms	
Thu	9/24	Chapter 11 91-205	Neisseria	Quiz 2 chapters 9, 10, and 11 due 9/27
Tue	9/29	Chapter 12: 207-230	Enterobacteriaceae	
Thu	10/1	Chapter 12: 207-230	Enterobacteriaceae	Quiz 3 chapter 12: due 10/4
Tue	10/6	Chapter 13: 235-253	Nonfermentative GNB	
Thu	10/8	Chapter 13: 235-253	Nonfermentative GNB	Quiz 4 chapter 13: due 10/11 Mid Term Exam: chapters 9, 10, 11, 12 and 13 : Due 10/18
Tue	10/13	Chapter 14: 255-266	Vibrio, Aeromonas, Campylobacter & Similar Organisms	
Thu	10/15	Chapter 15: 267-287	Haemophilus, HACEK, Bordetella & Other Fastidious GNB	
Tue	10/20	Chapter 15: 267-287	Haemophilus, HACEK, Bordetella & Other Fastidious GNB	Quiz 5 chapters 14 and 15 due 10/25
Thu	10/22	Chapter 16: 289-305	Gram Positive Bacilli	
Tue	10/27	Chapter 16: 289-305	Gram Positive Bacilli	
Thu	10/29	Chapter 17: 307-318	Spirochetes	Quiz 6 chapter 16 and 17 due 11/1
Tue	11/3	Chapter 18: 319-340	Anaerobes	
Thu	11/5	Chapter 18: 319 - 340	Anaerobes	Quiz 7 chapter 18 due 11/8
Tue	11/10	Chapter 19: 343-366	Mycobacterium	
Thu	11/12	Chapter 19: 343-366	Mycobacterium	Quiz 8 chapter 19 due 11/15
Tue	11/17	Chapter 20: 367-377	Chlamydia, Mycoplasma, Rickettsia	
Thu	11/19	Chapter 20: 367-377	Chlamydia, Mycoplasma, Rickettsia	
Tue	11/24	Chapter 22: 421-473	Parasitology	
Thu	11/26	No Class		
Tue	12/1	Chapter 22: 421-473	Parasitology	
Thu	12/3	Chapter 23: 494-514	Virology	Quiz 9 chapters 20 and 22 due 12/6
Tue	12/8	Review for Final exam		
Thu	12/10	Final Exam		Final Exam in person Thursday 12/10

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.