

MLS 4811 - Advanced Immunology and Urinalysis

Fall 2026 Syllabus, Section 01, CRN 42745,

Credit hours: 4

Instructor

Hiba Ismail

Email: hmismail@ysu.edu

Public Instructor Information

Professor: Hiba M Ismail MHHS, MLS(ASCP)^{CM}

Professional Qualifications:

Master's, Health and Human Services, Youngstown State University, 2012

Bachelor's, Medical Laboratory Science, Youngstown State University, 2005

Bachelor's, Applied Science, Youngstown State University, 2002

Associate's, Medical Laboratory Technology, Youngstown State University, 2002

ASCP Board Certified, MLS(ASCP)^{CM}

Instructor Office Location: Cushwa Hall

Instructor Office Phone: 330-941-1761

Course Description

4811. Advanced Immunology and Urinalysis. Didactics and Critical analysis of Immunological and Serological principles and analysis in the clinical laboratory and correlation to disease states. Web based lecture. Prereq.: Admission to the MLS Advanced Placement Online Completion Program. 4 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Immunology and Serology in Laboratory Medicine by Mary Louise Turgeon 7th Edition. ISBN# 9780323711937		

Urinalysis and Body Fluids by Susan King Strasinger 7ed. ISBN#978-0-8036-7582-7

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

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	1-08/24/2026 Review of Renal Physiology/ Intr. To Urinalysis Discussion #1: 08/30/2026 Quiz #1: 08/30/2026		1-08/24/2026 Review of Renal Physiology/ Intr. To Urinalysis Discussion #1: 08/30/2026 Quiz #1: 08/30/2026
8/31	2-08/31/2026 Renal Diseases- Glomerular Disorders, Tubular Disorders, Interstitial Disorders, Renal Failure, Metabolic Disorders and Urine Screening Quiz #2: 09/06/2026 Assignment #1: 09/06/2026		2-08/31/2026 Renal Diseases- Glomerular Disorders, Tubular Disorders, Interstitial Disorders, Renal Failure, Metabolic Disorders and Urine Screening Quiz #2: 09/06/2026 Assignment #1: 09/06/2026
9/7	Body Fluids- CSF, Semen/Vaginal Secretions, Synovial, Serous, Amniotic, Fecal Analysis		Quiz #3: 09/13/2026 MIDTERM Exam: 09/13/2026



9/14	Immune System Review	Discussion #2- 09/20/2026 Quiz #4- 09/20/2026
9/21	Immunoassay Principles, Immunoassay design instrumentation, Immunophenotyping	Quiz #5- 09/27/2026 Assignment/Case Study#2 09/27/2026
9/28	6-09/28/2026 Bacterial/Viral Serology Quiz #6- 10/04/2026	Quiz #6- 10/04/2026
10/5	Autoimmune Disorders, Tumor Immunology	Quiz #7- 10/11/2026 FINAL EXAM- 10/11/2026

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.