

MLS 3704 - Clinical Immunology and Serology

Fall 2026 Syllabus, Section 01, CRN 42459,

Credit hours: 3

Instructor

Hiba Ismail

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Public Instructor Information

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

Instructor 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
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Course Description

3704. Clinical Immunology and Serology . A study of the diagnostic applications of immunology and methods of serological testing. The immunology and diagnosis of infectious disease, autoimmunity, immunodeficiency, and immunoproliferative disease will be discussed. Coreq.: MLS 3704L. Cross-Listed: MLT 3704. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Immunology and Serology in Laboratory Medicine by Mary Louise Turgeon 7th Edition. ISBN# 97803237119		

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
Mon	8/24	Immunology serology lab Chapter 5	Basic safety in immunology serology lab - Ch.# 5	Safety Issues. Basic safety in immunology serology lab -Ch.# 5
Wed	8/26	Lecture # 2: Overview of Immunology -Ch.# 1	Lecture # 2: Overview of Immunology -Ch.# 1	Lecture # 2: Overview of Immunology -Ch.# 1
Mon	8/31	Lecture# 4: Soluble mediators of immune system- Ch.#2	Lecture# 4: Soluble mediators of immune system- Ch.#2	Lecture# 4: Soluble mediators of immune system- Ch.#2
Wed	9/2	Lecture# 4: Soluble mediators of immune system- Ch.#2	Lecture# 4: Soluble mediators of immune system- Ch.#2	Lecture# 4: Soluble mediators of immune system- Ch.#2
Mon	9/7	Lecture# 4: Soluble mediators of immune system- Ch.#2		
Wed	9/9	Quiz#1 (lecture 1, 2, 3)-Open 24 hours Lecture# 5-Cellular activities and Clinical Disorders of immune system Ch. #4	Quiz#1 (lecture 1, 2, 3)-Open 24 hours Lecture# 5-Cellular activities and Clinical Disorders of immune system Ch. #4	Quiz#1 (lecture 1, 2, 3)-Open 24 hours Lecture# 5-Cellular activities and Clinical Disorders of immune system Ch. #4



Mon	9/14	Lecture# 6-Basic Serological Techniques– Ch. # 7	Lecture# 6-Basic Serological Techniques– Ch. # 7	Lecture# 6-Basic Serological Techniques– Ch. # 7
Wed	9/16	Quiz #2 (lecture 4,5)-Open 24 hours Lecture# 7: Agglutination Methods and Electrophoresis Techniques Ch's. # 8& 9	Quiz #2 (lecture 4,5)-Open 24 hours Lecture# 7: Agglutination Methods and Electrophoresis Techniques Ch's. # 8& 9	Quiz #2 (lecture 4,5)-Open 24 hours Lecture# 7: Agglutination Methods and Electrophoresis Techniques Ch's. # 8& 9
Mon	9/21	Lecture# 8: Labeling Techniques in Immunoassay Ch# 10 Lecture #9 Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12	Lecture# 8: Labeling Techniques in Immunoassay Ch# 10 Lecture #9 Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12	Lecture# 8: Labeling Techniques in Immunoassay Ch# 10 Lecture #9 Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12
Wed	9/23	Quiz#3 (lectures #6,7)-Open 24 hours Lecture #9: Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12	Quiz#3 (lectures #6,7)-Open 24 hours Lecture #9: Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12	Quiz#3 (lectures #6,7)-Open 24 hours Lecture #9: Flow Cytometry Ch. #11 Molecular Laboratory techniques Ch. #12
Mon	9/28	Lecture #10: Infectious diseases: Overview and TORCH diseases Ch. #13	Lecture #10: Infectious diseases: Overview and TORCH diseases Ch. #13	Lecture #10: Infectious diseases: Overview and TORCH diseases Ch. #13
Wed	9/30	Quiz #4 (lecture 8-9)-Open 24 hours Lecture #10: Infectious diseases: Overview and TORCH diseases Ch. #13		Quiz #4 (lecture 8-9)-Open 24 hours Lecture #10: Infectious diseases: Overview and TORCH diseases Ch. #13
Mon	10/5	Lecture #11: Streptococcal Infections- Ch. #14	Lecture #11: Streptococcal Infections- Ch. #14	Lecture #11: Streptococcal Infections- Ch. #14
Wed	10/7	Quiz #5 (lectures 10-11) Open 24 hours Lecture #12: Syphilis-Ch. #15	Quiz #5 (lectures 10-11) Open 24 hours Lecture #12: Syphilis-Ch. #15	Quiz #5 (lectures 10-11) Open 24 hours Lecture #12: Syphilis-Ch. #15
Mon	10/12	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16
Wed	10/14	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16
Mon	10/19	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16	Lecture #13-Vector born Disease- Ch. #16
Wed	10/21	Lecture #15 Viral Hepatitis Ch. #18	Lecture #15 Viral Hepatitis Ch. #18	Lecture #15 Viral Hepatitis Ch. #18
Mon	10/26	Lecture #15- Viral Hepatitis- Ch. #18	Lecture #15- Viral Hepatitis- Ch. #18	Lecture #15- Viral Hepatitis- Ch. #18
Wed	10/28	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20
Mon	11/2	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20	Quiz #6 (lectures 14-15) Open 24 hours Lecture #16- Hypersensitivity reactions- Ch. #20
Wed	11/4	Quiz #7 (Lectures 16-17) Open 24 hours Lecture# 18-Immunoproliferative Disorders. Ch.# 21	Quiz #7 (Lectures 16-17) Open 24 hours Lecture# 18-Immunoproliferative Disorders. Ch.# 21	Quiz #7 (Lectures 16-17) Open 24 hours Lecture# 18-Immunoproliferative Disorders. Ch.# 21
Mon	11/9	Lecture# 19-Tolerance, autoimmunity, and autoimmune disorders Ch.- # 22	Lecture# 19-Tolerance, autoimmunity, and autoimmune disorders Ch.- # 22	Lecture# 19-Tolerance, autoimmunity, and autoimmune disorders Ch.- # 22
Wed	11/11	University Closed		
Mon	11/16	Lecture# 20 Systemic Lupus Erythematosus /ANA Ch. # 23	Lecture# 20 Systemic Lupus Erythematosus /ANA Ch. # 23	Lecture# 20 Systemic Lupus Erythematosus /ANA Ch. # 23
Wed	11/18	Quiz # 8 Lecture 18-19 Open 24 hours Lecture #21-Rheumatoid Arthritis Ch. # 2	Quiz # 8 Lecture 18-19 Open 24 hours Lecture #21-Rheumatoid Arthritis Ch. # 2	Quiz # 8 Lecture 18-19 Open 24 hours Lecture #21-Rheumatoid Arthritis Ch. # 2
Mon	11/23	Lecture# 22- Vaccines Ch.#27	Lecture# 22- Vaccines Ch.#27	Lecture# 22- Vaccines Ch.#27
Wed	11/25	University Closed-Thanksgiving holiday	University Closed-Thanksgiving holiday	
Mon	11/30	Lecture # 23 -Transplantation and Tumor immunology Ch.# 25	Lecture # 23 -Transplantation and Tumor immunology Ch.# 25	Lecture # 23 -Transplantation and Tumor immunology Ch.# 25
Wed	12/2	Quiz #9 (Lecture 20-21) Open 24 hours Lecture # 24-Tumor Immunology and Application of Massive Parallel Sequencing/ NGS Ch. - 26	Quiz #9 (Lecture 20-21) Open 24 hours Lecture # 24-Tumor Immunology and Application of Massive Parallel Sequencing/ NGS Ch. - 26	Quiz #9 (Lecture 20-21) Open 24 hours Lecture # 24-Tumor Immunology and Application of Massive Parallel Sequencing/ NGS Ch. - 26
Wed	12/9	FINAL Exam Comprehensive		

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