

PHAR 7202: Principles of Microbiology and Immunology Fall 2026

Course Description

This course introduces students to the fundamental principles of medical microbiology and immunology, providing a basic foundation for understanding infectious diseases and host defense mechanisms. Students will learn the structure, classification, and pathogenic features of clinically relevant microorganisms—including bacteria, viruses, fungi, and parasites—alongside the core components and functions of the human immune system.

Additional Course Description

This course provides an integrated, clinically relevant exploration of medical microbiology, immunology, and host-microbe interactions in human disease. It connects foundational microbiological concepts with immune system function to help students understand how infectious agents invade, survive, and cause pathology, and how the immune system detects, responds to, and eliminates these threats. Students will learn both protective and dysregulated immune responses, including inflammation, hypersensitivity reactions, immunodeficiencies, autoimmunity, and tumor immunity, highlighting the dual role of the immune system in maintaining health and contributing to disease. The course also introduces the principles of rational management of infectious diseases, including antimicrobial agents, vaccines, and immune-based therapeutics. Emphasis is placed on building essential knowledge that prepares students to recognize how microorganisms cause disease and how the body responds to these threats, forming the basis for future learning in pharmacotherapy and clinical practice.

Course Credit

2 credit hours

Pre-Requisites

None

Co-Requisites

None

Class Meeting Days, Time & Location

Days & Location: Wednesday; WTB 133; Time: 2 pm to 4:00 pm

Supplemental Instruction (SI) Session: Wednesday, 4 pm to 5:00 pm (WTB 133)

Course Coordinator

Chowdhury S. Abdullah, Ph.D.

W.T. Brookshire Hall Room # 344 Phone number: 903.566.6287 Email: cabdullah@uttyler.edu

Office hours: Tuesday & Thursday: 12 pm to 1 pm

Preferred method of contact: Email and in-person meeting

Course Instructor

Joseph S. Glavy, Ph.D.

W.T. Brookshire Hall Room # 364 Phone number: 903.566.6217 Email: jglavy@uttyler.edu

Office hours: Tuesday & Thursday: 12 pm to 1 pm

Preferred method of contact: Email and in-person meeting

Fisch College of Pharmacy (FCOP) and UT Tyler Policies

This is Part 1 of the syllabus. [Part 2](#) contains UT Tyler and the FCOP policies and procedures. For experiential courses (i.e., IPPE and/or APPE), the Experiential Manual contains additional policies and instructions that supplement the Syllabus Part 1 and 2. Please note, the experiential manual may contain policies with different deadlines and/or instructions. The manual should be followed in these cases.

Required Materials

1. Most class materials will be posted on the course Canvas site. The site address is uttyler.edu/canvas.
2. Doan T, Lievano F, Viselli SM, Swanson-Mungerson M (2022). Lippincott® Illustrated Reviews: Immunology. 3rd Edition. ISBN: 9781975151331. Lippincott Williams & Wilkins, Wolters Kluwer. (Available online through the Robert R. Muntz Library <http://library.uttyler.edu/>).
3. Cornelissen CN, Hobbs MM (2020). Lippincott® Illustrated Reviews: Microbiology. 5th Edition. ISBN: 9781496395856. Lippincott Williams & Wilkins, Wolters Kluwer. (Available online through the Robert R. Muntz Library <http://library.uttyler.edu/>).
4. Riedel S, Hobden JA, Miller S, Morse SA, Mietzner TA, Detrick B, Mitchell TG, Sakanari JA, Hotez P, Mejia R. eds (2019). Jawetz, Melnick, & Adelberg's Medical Microbiology. 28th Edition. ISBN: 978-1-260-01202-6. McGraw-Hill Education. (Available online through the Robert R. Muntz Library <http://library.uttyler.edu/>).

Additional Recommended Materials

1. Levinson W (2014). Review of Medical Microbiology and Immunology. 13th Edition. ISBN: 978-0-07-181811-7. McGraw-Hill Education. (On reserve at the Robert R. Muntz Library).
2. Abbas AK, Lichtman AH, Pillai S (2023). Basic Immunology: Functions and Disorders of the Immune System. 7th Edition. ISBN-13: 978-0443105197. Elsevier.

Using Artificial Intelligence (AI)

“AI is not permitted in this course at all. To best support your learning, you must complete all graded assignments by yourself to assist in your learning. This exclusion of other resources to help complete assignments includes artificial intelligence (AI). Refrain from using AI tools to generate any course context (e.g., text, video, audio, images, code, etc.) for an assignment or classroom assignment.” (UT Tyler Academic Affairs, 2024)

Course Format

The course may include, but is not limited to, the following activities:

1. Independent study of selected readings
2. Individual readiness assessment tests (e.g., iRATs)
3. Individual application of content and concepts (e.g., iApps, assignments)
4. Lecture
5. Active learning
6. Case studies
7. Educational video clips (online and in class)
8. Team-based learning, active learning strategies:
 - Team readiness assessment tests (tRATs)
 - Team application of content and concepts (tApps)

Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO (1-12)	ACPE Appendix 1 (names)	ACCP Didactic Toolkit (names)	NAPLEX (1.A.1 – 5.D)	Assessment Methods (1- 13)
1. Understand microbes' genetics, antibiotic mechanisms, and antimicrobial resistance, and differentiate between bacterial, viral, fungal, and parasitic infections regarding pathogenesis.	1	Medical Microbiology	Infectious Diseases	N/A	1, 2
2. Understand the microbes' structure and function, identify clinically important bacteria and viruses, and apply diagnostic methods to detect infections.	1	Medical Microbiology	Infectious Diseases	N/A	1, 2
3. Understand the pathogenesis of clinically important microorganisms, i.e., viruses, bacteria, protozoa, fungi, and worms	1	Medical Microbiology	Infectious Diseases	N/A	1, 2
4. Understand the structure and function of the immune system, including the roles of innate and adaptive immunity	1	Immunology	Immunologic	N/A	1, 2
5. Explain the molecular mechanisms underlying immune responses and immune tolerance	1	Immunology	Immunologic	N/A	1, 2
6. Interpret the clinical aspects of immunity, including hypersensitivity, autoimmune diseases, and immunodeficiencies	1	Immunology	Immunologic Allergies/drug hypersensitivities (e.g., anaphylaxis) Systemic lupus erythematosus	N/A	1, 2
7. Describe immunotherapeutic strategies, including biologics, antibodies, vaccines, and cell therapy	1	Immunology	Immunologic	1.A.2 2.A.1 2.C.1	1, 2

Course Assessment Methods

	Assessment Method
1	Question-based examination (ExamSoft-based)
2	Clinical case/Question-based Examination (In-Class Paper-Based)

Grading Policy & Grade Calculation

Grades will be determined based on evaluation of assignments, formative assessments (for learning), and summative assessments (for mastery). For all intents and purposes, final examinations are synonymous with summative assessments. Assessments may consist of, but are not limited to, multiple-choice, true/false, fill-in-the-blank, short-answer, essay, and problem-based questions. They may also include a variety of formats beyond the traditional question-based written examination, as each CLO may require different methods to determine student achievement.

Assignments, formative, and summative assessments may be **cumulative**. Students are responsible for the material presented during prior courses. The grading scale for all graded material is below. The final course grade will be assigned according to the calculated percentage, and the percentages will not be rounded upward or downward. For additional information, see [Part 2](#) of the syllabus.

During the time the course is in progress, students who obtain less than 75% on any summative assessment or a total course grade of less than 75% during a particular semester will receive an academic alert from the course coordinator and the Office of Academic Affairs and be subject to weekly in-course remediation with the course instructor(s).

Grade Calculation*

Individual Component	95%
iRATs/Individual applications/Quizzes/Assignments	8%
Practice tests	2%
Midterm Exam	40%
Final Exam (Comprehensive)	45%
Team Component	5%
t-RATs/Team applications/Project/Assignments	5%
Total	100%

****The final course letter grade will be determined according to the following grading scheme:***

A	90 - 100 %
B	80 - 89.999 %
C	70 - 79.999 %
D	65.0 - 69.999 %
F	< 65.0 %

Students are encouraged to review the remediation policy.

PHAR 7202 Fall 2026 Course Schedule				
WEEK	DAY		Instructor	CLO
1	08/26/2026	<i>Medical Microbiology:</i> Introduction to Microbiology, Pathogenicity of Microorganisms, Bacterial Structure, Growth, and Metabolism*	Abdullah	1, 2
2	09/02/2026	<i>Medical Microbiology:</i> Viruses, Virus Structure and Replication, Clinically Important Viruses, Overview of Antiviral Agents*	Glavy	2, 3
3	09/09/2026	<i>Medical Microbiology:</i> Mycology and Parasitology, Overview of Antimicrobial Agents*	Glavy	1, 3
4	09/16/2026	<i>Medical Microbiology:</i> Bacterial Genetics, Mutation and Mechanism of Anti-Bacterial Drug Resistance, Clinical Identification Methods*	Abdullah	1, 3
5	09/23/2026	<i>Medical Microbiology:</i> Clinically Important Bacteria and Bacterial Infectious Diseases* Practice Test #	Abdullah	1, 3
6	09/30/2026	<i>Basic Immunology:</i> Introduction to the Immune System Innate Immune cells and their effector functions*	Abdullah	4, 5
7	10/07/2026	Midterm Exam (On content covered from 08/26/2026 to 09/30/2026)	Abdullah/ Glavy	4, 5
8	10/14/2026	<i>Basic Immunology:</i> Organs, Cells, and Molecules (Antibodies, BCR, TCR) of the Adaptive Immune System*	Abdullah	4, 5
9	10/21/2026	<i>Basic Immunology:</i> Generation of Adaptive Immune Diversity B Lymphocyte Activation and Effector Functions*	Abdullah	4, 5
10	10/28/2026	<i>Basic Immunology:</i> Major Histocompatibility Complex (MHC), T Lymphocyte Activation and Effector Functions**	Abdullah	
11	11/04/2026	<i>Clinical Aspects of Immunity:</i> Hypersensitivity Reactions Autoimmune Diseases*	Abdullah	5, 6
12	11/11/2026	<i>Clinical Aspects of Immunity:</i> Tumor Immunity, CAR-T Cell Therapy, and Immune Deficiencies (AIDS)*	Abdullah	5, 6, 7
13	11/18/2026	<i>Clinical Aspects of Immunity:</i> Immune Pharmacotherapeutics, Biologicals, and Vaccines*	Abdullah	5, 6, 7
M-F	11/23/2026 – 11/27/2026	Thanksgiving Break	RELAX & STUDY	
14	12/02/2026	<i>Clinical Aspects of Immunity:</i> Immunity to Microbes Practice Test # and Review	Abdullah	1, 4, 5
15	12/10/2026	Comprehensive Final Exam	Abdullah	

*iRATs/iAPPs/tRATs/tAPPs; #Practice tests

Please note that dates, topics, and assignments are subject to change. In the event of a change, you will be given notification ahead of time.