

# PHAR 7202 Principles of Microbiology and Immunology

## Fall 2023

### Course Description

This course provides an overview of medical immunology and microbiology.

### Additional Course Information

This course provides an overview of medical immunology and medical microbiology and the host-microbe interactions for infectious diseases in humans. It integrates the basic concepts of the immune response to infectious agents and other triggers and their roles in disease. An introduction to the rational management, prevention, and control of infectious diseases is provided.

**Course Credit:** 2 credit hours

**Pre-Requisites:** None

**Co-Requisites:** None

**Class Meeting Days, Time & Location:** Tuesday, 2:00 pm – 4:00 pm; W.T. Brookshire Hall room 236

### Course Coordinator:

David Pearson, Ph.D.

W.T. Brookshire Hall Room 363

Phone number: 903.566.6109

Email: [dpearson@uttyler.edu](mailto:dpearson@uttyler.edu)

Office hours: Tuesday 12-2 pm

Also Open Door Policy

Preferred method of contact: Email

### Fisch College of Pharmacy (FCOP) and UT Tyler Policies

This is Part 1 of the syllabus. Part 2 contains UT Tyler and the FCOP course policies and procedures. These are available at <https://www.uttyler.edu/pharmacy/academic-affairs/files/fcop-syllabus-policies.pdf>. 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

Most course required materials are available through the Robert R. Muntz Library. These materials are available either online\* (<http://library.utt Tyler.edu/>) or on reserve.

1. Review of Medical Microbiology and Immunology 15E (15th Edition) by Warren E. Levinson et al. 2018. Lange-McGraw Hill Education. ISBN-13: 978-1259644498; ISBN-10: 1259644499
2. (On Access Pharmacy) Jawetz Melnick & Adelberg's Medical Microbiology, 28e Stefan Riedel, Jeffery A. Hobden, Steve Miller, Stephen A. Morse, Timothy A. Mietzner, Barbara Detrick, Thomas G. Mitchell, Judy A. Sakanari, Peter Hotez, Rojelio Mejia
3. Other required materials will be posted on the classes' Canvas site. The site address is: [utt Tyler.edu/canvas](http://utt Tyler.edu/canvas).

## Recommended Materials

1. \*Lippincott's Illustrated Reviews: Microbiology, 3<sup>rd</sup> Edition  
Cynthia Nau Cornelissen, Bruce D. Fisher, Richard A. Harvey ISBN: 978-1-60831-733-2, 2013.

## Course Format

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

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1. Independent study of selected readings
2. Mini Lecture
3. Individual readiness assessment tests (iRATs)
4. Team-based learning, active learning strategies:
  - a. Team readiness assessment tests (tRATs)
  - b. Team application of content and concepts
  - c. Guided Question and Answer sessions
  - d. Practice test questions and discussion

## Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO (1-15)	EPAs (1-13)	ACPE Std. 11 & 12 (1-4)	Grading Method	Assessment Methods
1. 1. Explain the physiological processes during an immune response, including the soluble and cellular components involved	1	NA	NA	ES	1,2
2. 2. Evaluate immune mediated processes, including hypersensitivity and autoimmunity, to the pathogenesis of disease.	1	NA	NA	ES	1,2
3. 3. Describe use of biologics in therapeutics that target immune function or activity.	1	NA	NA	ES	1,2
4. 4. Apply and interpret clinical diagnostics and methods to identify clinically important microorganisms, including bacteria, viruses, fungi, and parasites.	1	NA	NA	ES	1,2

5. 5. Apply knowledge of bacterial structure and function to targeting of antimicrobial drugs and mechanisms of drug resistance.	1	NA	NA	ES	1,2
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### Course Assessment Methods

	Assessment Method	Description <i>Please provide a brief description of each summative assessment that you plan to use in this course to allow us to identify which ACPE standards are being assessed</i>
1	Final Exam Multiple Choice or Multiple Selection Question(s)	<i>Standard MCQ and Select All that apply questions.</i>
2	Final Exam Open Ended Question(s)	
3	Comprehensive Case	
4	Skills Assessment	
5	OSCE	
6	Team Project	
7	Individual Project	
8	Oral Presentation	
9	Poster Presentation	
10	SOAP Note	
11	Reflection Essay	
12	Simulation	
13	Internship/Observation	
14	Other. Please specify:	

### Grading Policy & Grade Calculation

Grades will be determined based on evaluation of individual and team readiness assessment tests (iRATs, tRATs), individual and team cumulative assessment tests (iCATs, tCATs), midterm examinations, final written examinations, skills assessments, graded application assignments, participation in team-based projects, peer evaluations and other assessment methods that may include, but not limited to, Objective Structured Clinical Examinations (OSCEs). Examinations, RATs and CATs may consist of, but not limited to, multiple-choice, true/false, fill in the blank, short-answer, essay, and problem-based questions.

All examinations, tests, and assignments, including the final examination, may be **cumulative**. Students are responsible for 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 (<https://www.utt Tyler.edu/pharmacy/academic-affairs/files/fcop-syllabus-policies.pdf>).

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).

**Standard Grade Calculation\***

<b>Individual Component</b>	<b>95%</b>
iRATs/Other Individual Activities	10%
Midterm Exam	40%
Final Exam	45%
<b>Team Component</b>	<b>5%</b>
tRATs	3%
Team Application(s)/Team Projects	2%
<b>Total</b>	<b>100%</b>

*\*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 %

**PHAR 7202 Course Schedule**

WEEK	DAY	TOPIC	Instructor	CLO	Disease States
1** 08/22	T	(1.1.5 Immunology) Intro to Immunology; Innate and Adaptive Immune Systems	Dr. Pearson	1	S10.04, 05
2** 08/29	T	(1.1.5 Immunology, 1.1.3 Human Anatomy) Organs, Tissues and Cells of the Immune System	Dr. Pearson	1	S10.04
3** 09/05	T	(1.1.5 Immunology ) Immune Cell Interactions; Response to Antigens	Dr. Pearson	1	S15.99 Other Infection
4** 09/12	T	(1.1.5 Immunology ) Soluble Mediators and Actors of the Immune System	Dr. Pearson	1	S10.04
5** 09/19	T	(1.1.5 Immunology ) Hypersensitivity Reactions	Dr. Pearson	2	S10.04
6** 09/26	T	(1.1.5 Immunology , 1.1.4 HumanPhysiology) Autoimmunity and Immunodeficiency Disease States	Dr. Pearson	2	S10.04, 05
7** 10/03	T	(1.1.5Immunology, 1.1.1Biochemistry) Biologic Treatments: Vaccines, Monoclonal Antibodies, and Biologicals drugs	Dr. Pearson	3	S10.04, 15.19
8 10/10	T	<b>Midterm Exam</b>	Dr. Pearson		

9** 10/17	T	(1.1.6 Medical Microbiology ) Scope of Microbiology and Virology [Clinically Important Bacteria I]	Dr. Pearson	5	\$15.99 Other Infection
10** 10/24	T	(1.1.6 Medical Microbiology ) Prokaryotes vs Eukaryotes, Bacterial Growth, & Control of Growth [Clinically Important Bacteria II]	Dr. Pearson	4	\$15.99 Other Infection
11** 10/31	T	(1.1.6 Medical Microbiology ) Metabolism and Clinical Diagnostics and Identification Methods [Clinically Important Bacteria III]	Dr. Pearson	5	\$15.99 Other Infection
12** 11/7	T	(1.1.6 Medical Microbiology ) Prokaryotic Genetics and Mutations [Clinically Important Bacteria IV]	Dr. Pearson	5	\$15.99 Other Infection
13** 11/14	T	Antimicrobials: Mechanisms of Action & Resistance [Clinically Important Bacteria [Clinically Important Bacteria V] Pathogenic Mechanisms of Bacteria	Dr. Pearson	5	\$15.99 Other Infection
14 ** 11/20 -24	T	Thanksgiving holiday	Relax		
15** 11/28	T	(1.1.6 Medical Microbiology) Parasitology & Mycology	Dr. Glavy	5	\$15.99 Other Infection
5/12		<b>Comprehensive Final Exam</b>	Dr. Pearson		

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

**\*\* Expect an iRAT/tRAT**