

Principles of Microbiology and Immunology

PHAR 7202

Fall 2021

Course Description

This course provides an overview of medical immunology and microbiology.

Additional Course Description

This course provides an overview of medical immunology and medical microbiology and the host-microbe interactions in 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
SI session on Friday at 12:30 in 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

Office hours: Tuesday 12-2 pm

Open Door

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 as a PDF 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.

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Disability/Accessibility Services:

The University of Texas at Tyler has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Like so many things this Fall, the need for accommodations and the process for arranging them may be altered by the COVID-19 changes we are experiencing and the safety protocols currently in place. Students with disabilities who may need accommodation(s) in order to fully participate in this class are urged to contact the Student Accessibility and Resources Office (SAR) as soon as possible, to explore what arrangements need to be made to ensure access. During the Fall 2020 semester, SAR will be conducting all appointments via ZOOM. If you have a disability, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student Application. For more information, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices> or call 903.566.7079.

Important Covid-19 Information for Classrooms and Laboratories

Students are required to wear face masks covering their nose and mouth, and follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by [Procedures for Fall 2020 Return to Normal Operations](#). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, digestive issues (e.g. nausea, diarrhea), or a higher than normal temperature should stay at home and are encouraged to use the [UT Tyler COVID-19 Information and Procedures](#) website to review protocols, check symptoms, and report possible exposure. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

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Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Required Materials

Most course required materials are available through the Robert R. Muntz Library. These materials are available either online* (<http://library.uttyler.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

- Other required materials will be posted on the classes' Canvas site. The site address is: uttyler.edu/canvas.

Recommended Materials

- *Lippincott's Illustrated Reviews: Microbiology, 3rd 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:

- Independent study of selected readings
- Individual readiness assessment tests (iRATs)
- Team-based learning, active learning strategies:
 - Team readiness assessment tests (tRATs)
 - Team application of content and concepts

Course Learning Outcomes (CLOs)

¹ CLOs	Related PLO(s)	EPA	Assessment Methods	Grading Method	JCPP Skill(s) Assessed	AACP Std. 11 & 12
1. Describe the physiological processes during an immune response, including the soluble and cellular components involved	1	NA	1,2	ES	NA	NA
2. Relate immune mediated processes, including hypersensitivity and autoimmunity, to the pathogenesis of disease.	1	NA	1,2	ES	NA	NA
3. Describe use of biologics in therapeutics that target immune function or activity.	1	NA	1,2	ES	NA	NA
4. Apply and interpret clinical diagnostics and methods to identify clinically important microorganisms, including bacteria, viruses, fungi, and parasites.	1	NA	1,2	ES	NA	NA
5. Apply knowledge of bacterial structure and function to targeting of antimicrobial drugs and mechanisms of drug resistance.	1	NA	1,2	ES	NA	NA

Course Assessment

Assessment Method	Description

1	Exams may include Multiple Choice or Multiple Selection Question(s)	<i>Standard MCQ, Select All that apply, and fill in the blank questions in ExamSoft.</i>
2	Exams may include Open Ended Question(s)	<i>Short Answer Questions</i>

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 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 (OSCE). 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.

During the time the course is in progress, students whose cumulative course percentage falls below 70.0% may receive an academic alert and be subject to periodic course content review in special sessions with the course instructor(s). The student's faculty advisor may receive an academic alert to act upon on the student's behalf.

All examinations, tests, and assignments, including the final examination, will be **cumulative**. Students are responsible for material presented during the 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 examination/assessment policy below.

Standard Grade Calculation*

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

PHAR 7202 (Microbiology & Immunology) Course Schedule

WEEK	DAY Tuesday	TOPIC	Instructor	CLO	Disease State
1	**08/24	Intro to Immunology; Innate and Adaptive Immune Systems	Dr. Pearson	1	S10.04
2	**08/31	Organs, Tissues and Cells of the Immune System	Dr. Pearson	1	S10.04
3	**09/07	Immune Cell Interactions	Dr. Pearson	1	S15.99 Other Infection
4	**09/14	Soluble Mediators of the Immune System	Dr. Pearson	1	S10.04
5	**09/21	Hypersensitivity Reactions	Dr. Pearson	2	S10.04
6	**09/28	Autoimmunity and Immunodeficiency	Dr. Pearson	2	S10.04
7	**10/05	Biologics: Vaccines and Monoclonal Antibodies	Dr. Pearson	3	S10.04
8	10/12	Midterm Exam	Dr. Pearson		
9	**10/19	Scope of Microbiology and Virology [Clinically Important Bacteria I]	Dr. Pearson	5	S15.99 Other Infection
10	**10/26	Prokaryotes vs Eukaryotes, Bacterial Growth, & Control of Growth [Clinically Important Bacteria II]	Dr. Pearson	4	S15.99 Other Infection
11	**11/02	Metabolism and Clinical Diagnostics and Identification Methods [Clinically Important Bacteria III]	Dr. Pearson	5	S15.99 Other Infection
12	**11/09	Prokaryotic Genetics and Mutations [Clinically Important Bacteria IV]	Dr. Pearson	5	S15.99 Other Infection
13	**11/16	Antimicrobials: Mechanisms of Action & Resistance [Clinically Important Bacteria [Clinically Important Bacteria V] Pathogenic Mechanisms of Bacteria	Dr. Pearson	5	S15.99 Other Infection
14	11/22-27	Thanksgiving Holiday	Relax		
15	**11/30	Parasitology & Mycology	Dr. Glavy	5	S15.99 Other Infection
16	Final Exam: December 6, 2021 (1-4pm)				

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**

SI sessions will be on Friday at 12:30

