

Integrated Pharmacotherapy II: Infectious Diseases

PHAR 7582

Fall Semester 2020

Course Description

This integrated pharmacy course focuses on the application of skills and resources needed for pharmacists to guide patients' infectious-related needs.

Additional Course Information

This course will integrate clinical microbiology, the pharmacology and medicinal chemistry of antimicrobial agents, and the epidemiology and pathophysiology of various bacterial, viral, fungal and parasitic infections. The therapeutic application of anti-infective agents for the treatment and prophylaxis of infectious disease will be discussed, along with the dosing, adverse effects, drug interactions, and clinical monitoring parameters to promote their cost-effective, safe, and appropriate use.

Course Credit

5 credit hours

Class Meeting Days, Time & Location

Tuesday: 3:00pm – 5:00pm; W.T. Brookshire Hall, Rooms 136 & 137

Thursday: 2:00pm – 5:00pm; W.T. Brookshire Hall, Rooms 136 & 137

Course Coordinator

Cole Wilder, Pharm.D., BCPS, BCCCP

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Office hours: TBD

Preferred method of contact: E-Mail

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>. Part 3 contains policies specific to Fall 2020. These are available as a PDF at <https://www.uttyler.edu/pharmacy/academic-affairs/>.

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. *Jawetz, Melnick, & Adelberg's Medical Microbiology, 28th Edition. Riedel S, Hobden JA, Miller S, *et al.* eds. McGraw-Hill, 2019. Available via *AccessPharmacy*[®]
2. *Basic and Clinical Pharmacology, 14th Edition. Katzung BG. ed. McGraw-Hill, 2017. Available via *AccessPharmacy*[®]
3. *Principles of Pharmacology: The Pathophysiologic Basis of Drug Therapy Fourth Edition, 4th Edition. Golan DE, Armstrong EJ, Armstrong AW. eds. Wolters Kluwer, 2017. Available via *LWW Health Library*[®]
4. *Pharmacotherapy: A Pathophysiologic Approach, 11th Edition. DiPiro JT, Yee GC, Posey LM, *et al.* eds. McGraw-Hill, 2020. Available via *AccessPharmacy*[®]
5. *Applied Therapeutics: The Clinical Use of Drugs, 11th Edition. Zeind CS, Carvalho MG. eds. Wolters Kluwer, 2018. Available via *LWW Health Library*[®]
6. An Introduction to Medicinal Chemistry, 6th Edition. Graham Patrick. Oxford University Press, 2017. ISBN: 978-0-19874-969-1
7. Other required materials will be posted on the classes' Canvas site. The site address is: uttyler.edu/canvas.

Recommended Materials

Most course recommended materials are on reserve* at the Robert R. Muntz Library.

1. *Basic Skills in Interpreting Laboratory Data, 6th Edition. Lee M. ed. American Society of Health-System Pharmacist, 2017. ISBN: 978-1-58528-343-9.
2. *Antibiotic Basics for Clinicians, 3rd Edition. Houser AR. ed. Wolters Kluwer, 2019. ISBN: 978-1-49638-448-5.
3. The Sanford Guide to Antimicrobial Therapy, 50th Edition. Gilbert DN, Chambers HF, Saag MS, *et al.* eds. Antimicrobial Therapy, Inc, 2020. ISBN: 978-1-944272-13-5.

Course Format

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

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

Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO	EPAs	Assessment Methods	Grading Method	PPCP Skill(s) Assessed	ACPE Std. 11 & 12
1. Identify clinically relevant pathogens involved in the etiology of infectious diseases.	1	1.1, 1.2	1, 2	ES	1, 2	/
2. Recognize the clinical presentation and identify distinguishing pathophysiologic features of selected infectious diseases.	1, 6	1.1, 1.2, 3.1	1, 2	ES	1, 2	4
3. Identify antimicrobial agents and their distinguishing characteristics, including mechanisms of action, spectrum of activity, drug interactions, patient counseling points, and adverse effects.	1, 6, 7	3.2, 3.3, 4.1	1, 2	ES	2, 3	/
4. Formulate appropriate antimicrobial regimens for prophylactic, empiric, and definitive therapy for selected infectious diseases.	1, 2, 6	1.3, 1.4, 4.2	1, 2	ES	3, 4	1, 4
5. Determine the appropriateness of antimicrobial therapy and recommend modification to therapeutic regimens based on disease state criteria and/or patient-specific parameters.	1, 2, 6	1.3, 1.4, 1.5, 3.2, 3.3, 4.2	1, 2	ES	2, 3, 4, 5	1, 4

Course Assessment Methods

	Assessment Method	Description
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)	<i>Constructed-Response/Fill-in-the-Blank/Matching questions, Short-Answer questions, Hot Spot 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 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 (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, may 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*

iRATs	10%
Individual Applications/Activities	5%
Unit 1 Assessment (iCAT)	18%
Unit 2 Assessment (iCAT)	20%
Unit 3 Assessment (iCAT)	12%
Cumulative Final Examination	30%
tRATs/Team Application	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 %

PHAR 7582 Course Schedule
Fall Semester 2020

Week	Day	Date	Time	Topic	Unit	Faculty	CLO	WSOP Category	Disease State	
Unit I: Clinical Microbiology and Pharmacology										
1	Tue	8/25/20	3:00pm	Course Overview	/	Wilder	/	/	/	
			4:00pm	Infectious Disease Introduction and Terminology		Wilder	2	/	/	
	Thu	8/27/20	2:00pm	*Infectious Disease Laboratory Tests		Wilder	2	/	Clinical Chemistry	
			3:00pm	*Clinical Microbiology: Bacteriology		Wilder	1	/	Medical Microbiology	
2	Tue	9/1/20	3:00pm	*Clinical Microbiology: Bacteriology		Wilder	1	/	Medical Microbiology	
			4:00pm	Clinical Microbiology: Bacteriology		Wilder	1	/	Medical Microbiology	
	Thu	9/3/20	2:00pm	*Antimicrobial Pharmacotherapy: Cell Wall Synthesis Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
			3:00pm	Antimicrobial Pharmacotherapy: Cell Wall Synthesis Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
3	Tue	9/8/20	3:00pm	*Antimicrobial Medicinal Chemistry: Cell Wall Synthesis Inhibitors	I	Adbelaziz	3	S15.01, S15.16	Medicinal Chemistry	
			4:00pm	Antimicrobial Medicinal Chemistry: Cell Wall Synthesis Inhibitors		Adbelaziz	3	S15.01, S15.16	Medicinal Chemistry	
	Thu	9/10/20	2:00pm	*Antimicrobial Pharmacotherapy: Protein Synthesis Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
			3:00pm	Antimicrobial Pharmacotherapy: Protein Synthesis Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
4	Tue	9/15/20	3:00pm	*Antimicrobial Pharmacotherapy: DNA Synthesis & Replication Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
			4:00pm	Antimicrobial Pharmacotherapy: DNA Synthesis & Replication Inhibitors		Wilder	3	S15.01, S15.16	Pharmacology	
	Thu	9/17/20	2:00pm	*Antimicrobial Medicinal Chemistry: Protein Synthesis Inhibitors		Adbelaziz	3	S15.01, S15.16	Medicinal Chemistry	
			3:00pm	Antimicrobial Medicinal Chemistry: Protein Synthesis Inhibitors		Adbelaziz	3	S15.01, S15.16	Medicinal Chemistry	
5	Tue	9/22/20	3:00pm	UNIT I ASSESSMENT (CAT)						
			4:00pm							
	Unit II: Bacterial Infections									
	Thu	9/24/20	2:00pm	*Antimicrobial Regimen Selection		Wilder	4, 5	/	Medical Microbiology	
3:00pm			Antimicrobial Regimen Selection		Wilder	4, 5	/	Medical Microbiology		
4:00pm			Antimicrobial Regimen Selection		Wilder	4, 5	/	Medical Microbiology		
Tue	9/29/20	3:00pm	Antimicrobial Stewardship		Wilder	5	/	Pharmacotherapy		
		4:00pm	*Antimicrobial Prophylaxis in Surgery/Surgical Site Infections		Wilder	1, 2, 4	S15.20	Pharmacotherapy		
	Thu	10/1/20	2:00pm	*Skin and Soft Tissue Infections		Smith	1, 2, 4	S15.06	Pharmacotherapy	
			3:00pm	Skin and Soft Tissue Infections		Smith	1, 2, 4	S15.06	Pharmacotherapy	
7	Tue	10/6/20	3:00pm	*Gastrointestinal and Intra-Abdominal Infections		Wilder	1, 2, 4	S15.08	Pharmacotherapy	
			4:00pm	Gastrointestinal and Intra-Abdominal Infections		Wilder	1, 2, 4	S15.08	Pharmacotherapy	
	Thu	10/8/20	2:00pm	*Urinary Tract Infections		Smith	1, 2, 4	S15.09	Pharmacotherapy	
			3:00pm	Urinary Tract Infections	II	Smith	1, 2, 4	S15.09	Pharmacotherapy	
8	Tue	10/13/20	3:00pm	*Upper Respiratory Tract Infections		Yang	1, 2, 4	S15.03	Pharmacotherapy	
			4:00pm	Upper Respiratory Tract Infections		Yang	1, 2, 4	S15.03	Pharmacotherapy	
	Thu	10/15/20	2:00pm	*Lower Respiratory Tract Infections		Yang	1, 2, 4	S15.04	Pharmacotherapy	
			3:00pm	Lower Respiratory Tract Infections		Yang	1, 2, 4	S15.04	Pharmacotherapy	
9	Tue	10/20/20	3:00pm	*Sexually-Transmitted Infections		Wilder	1, 2, 4	S15.10	Pharmacotherapy	
			4:00pm	Sexually-Transmitted Infections		Wilder	1, 2, 4	S15.10	Pharmacotherapy	
	Thu	10/22/20	2:00pm	*Infective Endocarditis/Central Nervous System Infections		Wilder	1, 2, 4	S15.02	Pharmacotherapy	
			3:00pm	Infective Endocarditis/Central Nervous System Infections		Wilder	1, 2, 4	S15.02	Pharmacotherapy	
10	Tue	10/27/20	3:00pm	UNIT II ASSESSMENT (ICAT)						
			4:00pm							

PHAR 7582 Course Schedule
Fall Semester 2020

Week	Day	Date	Time	Topic	Unit	Faculty	CLO	WSOP Category	Disease State	
UNIT III: Viral, Fungal, Parasitic, and Mycobacterial Infections										
10	Thu	10/29/20	2:00pm	Clinical Microbiology: Virology	III	Wilder	1	/	Medical Microbiology	
			3:00pm	*Antimicrobial Pharmacotherapy: Antiviral/Antiretroviral Agents		Wilder	3	S15.01	Pharmacology	
			4:00pm	Antimicrobial Pharmacotherapy: Antiviral/Antiretroviral Agents		Wilder	3	S15.01	Pharmacology	
11	Tue	11/3/20	3:00pm	*Antimicrobial Medicinal Chemistry: Antiviral/Antiretroviral Agents		Adbelaziz	3	S15.01	Medicinal Chemistry	
			4:00pm	Antimicrobial Medicinal Chemistry: Antiviral/Antiretroviral Agents		Adbelaziz	3	S15.01	Medicinal Chemistry	
11	Thu	11/5/20	2:00pm	*Influenza		Yang	1, 2, 4	S15.05	Pharmacotherapy	
			3:00pm	Influenza		Yang	1, 2, 4	S15.05	Pharmacotherapy	
			4:00pm	Respiratory Syncytial Virus		Fenn	1, 2, 4	S15.05	Pharmacotherapy	
12	Tue	11/10/20	3:00pm	Clinical Microbiology: Mycology		Wilder	1	/	Medical Microbiology	
			4:00pm	*Antimicrobial Pharmacotherapy: Antifungal Agents	Wilder	3	S15.01	Pharmacology		
	Thu	11/12/20	2:00pm	Antimicrobial Pharmacotherapy: Antifungal Agents	Wilder	3	S15.01	Pharmacology		
			3:00pm	*Antimicrobial Medicinal Chemistry: Antifungal Agents	Adbelaziz	3	S15.01	Medicinal Chemistry		
13	Tue	11/17/20	3:00pm	*Superficial Fungal Infections	Wilder	1, 2, 4	S15.13	Pharmacotherapy		
			4:00pm	Superficial Fungal Infections	Wilder	1, 2, 4	S15.13	Pharmacotherapy		
	Thu	11/19/20	2:00pm	UNIT III ASSESSMENT (iCAT)						
			3:00pm							
14	Tue	11/24/20	3:00pm	Thanksgiving Holiday: NO CLASSES						
			4:00pm							
	Thu	11/26/20	2:00pm							
			3:00pm							
15	Tue	12/1/20	3:00pm	*Parasitic Infections	Wilder	1, 2, 4	S15.18	Pharmacotherapy		
			4:00pm	Parasitic Infections	Wilder	1, 2, 4	S15.18	Pharmacotherapy		
	Thu	12/3/20	2:00pm	*Antimicrobial Pharmacotherapy: Antimycobacterial Agents	Wilder	1, 2, 4	S15.07	Pharmacology		
			3:00pm	Antimicrobial Pharmacotherapy: Antimycobacterial Agents	Wilder	1, 2, 4	S15.07	Pharmacology		
			4:00pm	Final Examination Review/Recitation	Wilder	/	/	/		
16	Fri	12/11/20	9:00am	CUMULATIVE FINAL EXAMINATION						
			10:00am							
			11:00am							
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.										
Asterisk (*) denotes scheduled dates and topics for iRAT/tRAT; Please note, iRATs/tRATs can occur at any time at the discretion of the course faculty.										