Integrated Pharmacotherapy 2: Infectious Diseases
PHAR 7582
Fall Semester 2024

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
Tuesdays: 2:00pm – 4:30pm; W.T. Brookshire Hall, Room 235
Thursdays: 2:00pm – 4:30pm; W.T. Brookshire Hall, Room 235

Course Coordinator
Young Ran Lee, Pharm.D., BCPS, BCCCP, BCIDP
WT Brookshire Hall, Room #233
Phone: (903) 566-6111
E-mail: younglee@uttyler.edu
Office Hours: Monday and Wednesday 1:00 PM -2:00 PM; other times by appointment
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.

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. *Antibiotic Basics for Clinicians, 3rd Edition. Houser AR. ed. Wolters Kluwer, 2019. ISBN: 978-1-49638-448-5. Available via *LWW Health Library®*
5. *Pharmacotherapy: A Pathophysiologic Approach, 11th Edition. DiPiro JT, Yee GC, Posey LM, *et al.* eds. McGraw-Hill, 2020. Available via *AccessPharmacy®*
6. *Basic Concepts in Pharmacology: What You Need to Know for Each Drug Class, 5th Edition. Stringer JL. McGraw-Hill, 2017. Available via *AccessPharmacy®*

7. *Applied Therapeutics: The Clinical Use of Drugs, 11th Edition. Zeind CS, Carvalho MG. eds. Wolters Kluwer, 2018. Available via *LWW Health Library®*
8. An Introduction to Medicinal Chemistry, 6th Edition. Graham Patrick. Oxford University Press, 2017. ISBN: 978-0-19874-969-1
9. 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. The Sanford Guide to Antimicrobial Therapy 2022, 52nd Edition. Gilbert DN, Chambers HF, Saag MS, *et al.* eds. Antimicrobial Therapy, Inc, 2020. ISBN: 978-1-944272-21-0.

Course Format

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

1. Independent study of selected readings
2. Individual active learning strategies:
    a. Individual readiness assessment tests (iRATs)
    b. Individual application of content and concepts
    c. Individual presentation of content and concepts
    d. SOAP note(s)
3. Team-based active learning strategies:
    a. Team readiness assessment tests (tRATs)
    b. Team application of content and concepts
    c. Team presentation of content and concepts
    d. Team project(s)
    e. SOAP note(s)
4. Lecture
5. Educational video clips (online and in class)
6. Independent preparation of reflection papers

Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO	EPAs	Assessment Methods	Grading Method	ACPE Std. 11 & 12
1. Identify clinically relevant pathogens involved in the etiology of infectious diseases.	1	1, 2	1, 2	ES	/
2. Recognize the clinical presentation and identify distinguishing pathophysiologic features of selected infectious diseases.	1, 6	1, 2	1, 2	ES	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	1, 2	1, 2, 3	ES, RUB	/
4. Formulate appropriate antimicrobial regimens for prophylactic, empiric, and definitive therapy for selected infectious diseases.	1, 2, 6	2, 3, 4, 5	1, 2	ES	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	2, 3, 4, 5	1, 2	ES	1, 4

Course Assessment Methods

	Assessment Method	Description
1	Final Exam Multiple Choice or Multiple Selection Question(s)	*Standard MCQ and Select All That Apply questions.*
2	Final Exam Open Ended Question(s)	*Constructed-Response/Fill-in-the-Blank/Matching questions, Short-Answer questions, Hot Spot questions.*
3	Skills Assessment	*Rubric-based assessments on patient counseling.*

Artificial intelligence (AI) tools (such as ChatGPT or Copilot) are permitted only for specific assignments or situations. When AI use is permissible, it will be clearly stated in the assignment directions, and all use of AI must be appropriately acknowledged and cited. Otherwise, the default is that AI is not allowed during any stage of an assignment.

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, iRATs/tRATs and iCATs may consist of, but not limited to, multiple-choice, true/false, fill in the blank, short-answer, essay, and problem-based questions. **Backwards navigation will <u>not</u> be available on summative assessments (*e.g.* iCATs and Final Examination) administered via ExamSoft.**

During the time the course is in progress, students whose cumulative course percentage falls below 75.0% 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*

Individual Component	**95%**
iRATs/Individual Applications/Activities (iAPPs)	5%
Unit 1 Assessment (iCAT)	20%
Unit 2 Assessment (iCAT)	24%
Unit 3 Assessment (iCAT)	16%
Cumulative Final Examination	30%
Team Component	**5%**
tRATs/Team Applications (tAPPs)	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 2024

WEEK	DATE	TOPIC	FACULTY	CLO	WSOP CATEGORY
1	8/27	Infectious Disease Introduction and Terminology / Clinical Microbiology: Bacteriology	Lee	2	/
	8/29	Clinical Microbiology: Bacteriology	Lee	2	/
2	9/3	Clinical Microbiology: Clinically Important Bacteria	Lee	1	/
	9/5	Antimicrobial Medicinal Chemistry: Cell Wall Synthesis Inhibitors	Abdelaziz	3	S15.01, S15.16
3	9/10	Antimicrobial Medicinal Chemistry: Protein Synthesis Inhibitors	Abdelaziz	3	S15.01, S15.16
	9/12	Antimicrobial Pharmacotherapy: Cell Wall Synthesis Inhibitors	Go	3	S15.01, S15.16
4	9/17	Antimicrobial Pharmacotherapy: Protein Synthesis Inhibitors	Brazill	3	S15.01, S15.16
	9/19	Antimicrobial Pharmacotherapy: DNA Synthesis & Replication Inhibitors	Go	3	S15.01, S15.16
5	9/24	**Unit 1 Assessment**			
	9/26	Antimicrobial Stewardship/Antimicrobial Prophylaxis in Surgery/Surgical Site Infections	Lee	1,2,4,5	S15.17 S15.20
6	10/1	Antimicrobial Regimen Selection	Smith	,4,5	S15.16
	10/3	Upper Respiratory Tract Infections	Newsome	1,2,4	S15.03
7	10/8	UTIs/Prostatitis	Smith	1,2,4	S15.09A/B S15.27
	10/10	STIs	Newsome	1,2,4	S15.10
8	10/15	Skin and Soft Tissue Infections / Bone and Joint Infections	Smith	1,2,4	S15.06/ S15.11
	10/17	Lower Respiratory Tract Infections	Lee	1,2,4	S15.04
9	10/22	CDiff / GI and Intra-Abdominal Infections	Lee	1,2,4	S15.23 S15.08 S15.25
	10/25	Infective Endocarditis/CNS Infections	Lee	1,2,4	S15.26 S15.02
10	10/29	**Unit 2 Assessment**			
	10/31	Antimicrobial Pharmacotherapy: Antiviral/Antiretroviral Agents	Newsome	3	S15.01
11	11/5	Antimicrobial Medicinal Chemistry: Antiviral/Antiretroviral/Antimycobacterial Agents	Abdelaziz	3	S15.01

	11/7	Antimicrobial Pharmacotherapy: Antiviral Agents – Influenza / Influenza	Newsome	1,2,4	S15.01 S15.05
12	11/12	Antimicrobial Medicinal Chemistry: Antifungal Agents	Abdelaziz	3	S15.01
	11/14	No class (Please note 11/19 lecture time)			
13	11/19 2-5 PM	Antimicrobial Pharmacotherapy: Antifungal Agents / Invasive Fungal Infections / Superficial Fungal Infections	Smith	1,2,4	S15.01 S15.13
	11/21	**Unit 3 Assessment**			
	THANKSGIVING BREAK				
14	12/3	Antimicrobial Pharmacotherapy: Antimycobacterial Agents / Tuberculosis	Newsome	1,2,4	S15.07
	12/5	Parasitic Infections / Travel Medicine and Vector Borne Diseases	Newsome	1,2,4	S15.28 S15.29
15	**CUMULATIVE FINAL EXAM (12/13/24, 9 AM – 12 PM)**				