PHAR 7582: Integrated Pharmacotherapy 2: Infectious Diseases
Fall Semester 2025

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

Pre-requisites:
P2 Standing

Class Meeting Days, Time & Location
Tuesdays: 2:30pm – 5:00pm; W.T. Brookshire Hall, Room 235
Thursdays: 2:30pm – 5:000pm; W.T. Brookshire Hall, Room 235

Course Coordinators
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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
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. *Pharmacotherapy: A Pathophysiologic Approach, 12th Edition. DiPiro JT, Yee GC, Posey LM, *et al.* eds.

McGraw- Hill, 2021. Available via *AccessPharmacy®*

2. *Applied Therapeutics: The Clinical Use of Drugs, 11th Edition. Zeind CS, Carvalho MG. eds. Wolters Kluwer, 2018. Available via *LWW Health Library®*
3. An Introduction to Medicinal Chemistry, 6th Edition. Graham Patrick. Oxford University Press, 2017. ISBN: 978-0- 19874-969-1
4. 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. *Antibiotic Basics for Clinicians, 3rd Edition. Houser AR. ed. Wolters Kluwer, 2019. ISBN: 978-1-49638-448-5. Available via *LWW Health Library®*
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 readiness assessment tests (iRATs)
3. Individual active learning strategies (iAPPs)
4. Team-based learning, active learning strategies:
    a. Team readiness assessment tests (tRATs)
    b. Team application of content and concepts (tAPPs)
    c. Team presentation of content and concepts
5. Lecture
6. Educational video clips (online and in-class)

Course Learning Outcomes (CLOs)

CLOs	PLO(s) Assessed for this CLO	ACPE Appendix 1	ACCP Didactic Toolkit	NAPLEX (1.1-6.5)	Assessment Methods (1-13)
1. Identify clinically relevant pathogens involved in the etiology of infectious diseases.	1	Medical Microbiology	1 Clostridioides difficile infection 1 Common parasitic diseases (e.g., head and body lice, pinworm) 1 Fungal infections, superficial (e.g., vulvovaginal and oral/esophageal candidiasis, dermatophytoses) 1 Immunizations (Flu vaccine) 1 Influenza viral infection 1 Lower respiratory tract infections 1 Skin and soft tissue infections 1 Upper respiratory tract infections (e.g., otitis media, sinusitis, bronchitis, pertussis) Updated 7/1/2024 1 UTIs, uncomplicated 2 Antimicrobial prophylaxis in surgery and other procedures 2 Bone and joint infections 2 CNS infections (e.g., meningitis, encephalitis, brain abscess) 2 Coronavirus disease 2019 2 Fungal infections, invasive (e.g., endemic fungus, cryptococcosis, aspergillosis, hematogenous candidiasis, mucormycosis) 2 GI infections (e.g., infectious diarrhea, enterotoxigenic poisonings) 2 Infective endocarditis 2 Intra-abdominal infections 2 Opportunistic infections in patients with altered immunocompetence 2 Sexually transmitted infections (syphilis, gonorrhea, chlamydia, trichomoniasis, human papillomavirus, pelvic inflammatory disease) 2 Tuberculosis 2 UTIs, complicated 2 Viral infections (e.g., varicella, cytomegalovirus, herpes simplex, measles, mumps, rabies)	1.1, 1.2	1, 9

2. Recognize the clinical presentation and identify distinguishing pathophysiologic features of selected infectious diseases.	1, 6	Pathophysiology	1 Clostridioides difficile infection 1 Common parasitic diseases (e.g., head and body lice, pinworm) 1 Fungal infections, superficial (e.g., vulvovaginal and oral/esophageal candidiasis, dermatophytoses) 1 Immunizations (Flu vaccine) 1 Influenza viral infection 1 Lower respiratory tract infections 1 Skin and soft tissue infections 1 Upper respiratory tract infections (e.g., otitis media, sinusitis, bronchitis, pertussis) Updated 7/1/20241 UTIs, uncomplicated 2 Antimicrobial prophylaxis in surgery and other procedures 2 Bone and joint infections 2 CNS infections (e.g., meningitis, encephalitis, brain abscess) 2 Coronavirus disease 2019 2 Fungal infections, invasive (e.g., endemic fungus, cryptococcosis, aspergillosis, hematogenous candidiasis, mucormycosis) 2 GI infections (e.g., infectious diarrhea, enterotoxigenic poisonings) 2 Infective endocarditis 2 Intra-abdominal infections 2 Opportunistic infections in patients with altered immunocompetence 2 Sexually transmitted infections (syphilis, gonorrhea, chlamydia, trichomoniasis, human papillomavirus, pelvic inflammatory disease) 2 Tuberculosis 2 UTIs, complicated 2 Viral infections (e.g., varicella, cytomegalovirus, herpes simplex, measles, mumps, rabies)	1.5	1, 9
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	Pharmacology, medicinal chemistry, pharmacotherapy		2.1, 3.4, 3.5, 3.6, 3.7, 3.8	1
4. Formulate appropriate antimicrobial regimens for prophylactic, empiric, and definitive therapy for selected infectious diseases.	1, 2, 6	Pharmacotherapy	1 Clostridioides difficile infection 1 Common parasitic diseases (e.g., head and body lice, pinworm) 1 Fungal infections, superficial (e.g., vulvovaginal and oral/esophageal candidiasis, dermatophytoses) 1 Immunizations (Flu vaccine) 1 Influenza viral infection 1 Lower respiratory tract infections 1 Skin and soft tissue infections 1 Upper respiratory tract infections (e.g., otitis media, sinusitis, bronchitis, pertussis) Updated 7/1/20241 UTIs, uncomplicated 2 Antimicrobial prophylaxis in surgery and other procedures 2 Bone and joint infections 2 CNS infections (e.g., meningitis, encephalitis, brain abscess) 2 Coronavirus disease 2019 2 Fungal infections, invasive (e.g., endemic fungus, cryptococcosis, aspergillosis, hematogenous candidiasis, mucormycosis) 2 GI infections (e.g., infectious diarrhea, enterotoxigenic poisonings) 2 Infective endocarditis 2 Intra-abdominal infections 2 Opportunistic infections in patients with altered immunocompetence 2 Sexually transmitted infections (syphilis, gonorrhea, chlamydia, trichomoniasis, human papillomavirus, pelvic inflammatory disease)	6.3	1, 9

			2 Tuberculosis 2 UTIs, complicated 2 Viral infections (e.g., varicella, cytomegalovirus, herpes simplex, measles, mumps, rabies)		
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	Pharmacotherapy	1 Clostridioides difficile infection 1 Common parasitic diseases (e.g., head and body lice, pinworm) 1 Fungal infections, superficial (e.g., vulvovaginal and oral/esophageal candidiasis, dermatophytoses) 1 Immunizations (Flu vaccine) 1 Influenza viral infection 1 Lower respiratory tract infections 1 Skin and soft tissue infections 1 Upper respiratory tract infections (e.g., otitis media, sinusitis, bronchitis, pertussis) Updated 7/1/20241 UTIs, uncomplicated 2 Antimicrobial prophylaxis in surgery and other procedures 2 Bone and joint infections 2 CNS infections (e.g., meningitis, encephalitis, brain abscess) 2 Coronavirus disease 2019 2 Fungal infections, invasive (e.g., endemic fungus, cryptococcosis, aspergillosis, hematogenous candidiasis, mucormycosis) 2 GI infections (e.g., infectious diarrhea, enterotoxigenic poisonings) 2 Infective endocarditis 2 Intra-abdominal infections 2 Opportunistic infections in patients with altered immunocompetence 2 Sexually transmitted infections (syphilis, gonorrhea, chlamydia, trichomoniasis, human papillomavirus, pelvic inflammatory disease) 2 Tuberculosis 2 UTIs, complicated 2 Viral infections (e.g., varicella, cytomegalovirus, herpes simplex, measles, mumps, rabies)	6.3	1

Course Summative Assessment Methods

	Assessment/Examination Method
1	Question-based examination (ExamSoft-based)
2	Question-based examination (paper-based)
3	Comprehensive Case
4	Skills Assessment
5	OSCE
6	Team Project
7	Individual Project
8	Oral Presentation
9	SOAP Note
10	Reflection Essay
11	Simulation
12	Internship/Observation
13	Other major assignment.

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 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).

Standard Grade Calculation*

Individual Component	**95%**
iRATs/Individual Applications/Activities (iAPPs)	5%
Unit 1 Assessment (iCAT)	20%
Unit 2 Assessment (iCAT)	20%
Unit 3 Assessment (iCAT)	20%
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 %

Appropriate Use of Artificial Intelligence

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.

PHAR 7582 Course Schedule
Fall Semester 2025

WEEK	DATE	TOPIC	FACULTY	CLO
1	8/26	Infectious Disease Introduction/ Medical Microbiology: Bacteriology (I)	Go	2
	8/28	Medical Microbiology: Bacteriology (II)	Go	2
2	9/2	Medicinal Chemistry: Cell Wall Synthesis Inhibitors	Abdelaziz	3
	9/4	Medicinal Chemistry: Protein Synthesis, DNA Synthesis & Replication Inhibitors	Abdelaziz	3
3	9/9	Medicinal Chemistry: Antiviral/ Antiretroviral Agents	Abdelaziz	3
	9/11	Medicinal Chemistry: Antifungals and Antimycobacterial Agents	Abdelaziz	3
4	9/16	**Unit 1 Assessment**		
	9/18	Pharmacotherapy: Cell Wall Synthesis Inhibitors	Go	3
5	9/23	Pharmacotherapy: Protein Synthesis, DNA Synthesis & Replication Inhibitors	Go	3
	9/25	Pharmacotherapy: Antimicrobial Regimen Selection	Go	4,5
6	9/30	Pharmacotherapy: Antimicrobial Stewardship/Antimicrobial Prophylaxis in Surgery/Surgical Site Infections	Lee	1.2,4,5
	10/2	Pharmacotherapy: Lower Respiratory Tract Infections	Lee	1,2,4
7	10/7	Pharmacotherapy: Upper Respiratory Tract Infections	Cocchio	1,2,4
	10/9	Pharmacotherapy: Comprehensive Cases (I)	Go/Lee	1,2,4
8	10/14	**Unit 2 Assessment**		
	10/16	Pharmacotherapy: UTIs/Prostatitis	Go	1,2,4
9	10/21	Pharmacotherapy: Skin and Soft Tissue Infections / Bone and Joint Infections	Go	1,2,4
	10/23	Pharmacotherapy: STIs	Chang (critical care fellow)	1,2,4
10	10/28	Pharmacotherapy: Infective Endocarditis/CNS Infections	Lee	1,2,4

	10/30	Pharmacotherapy: C. diff / GI and Intra-Abdominal Infections	Lee	1,2,4
11	11/4	Pharmacotherapy: Parasitic Infections / Travel Medicine and Vector Borne Diseases	Cocchio	1,2,3,4
	11/6	Pharmacotherapy: Comprehensive Cases (II)	Chang/Lee	1,2,4
12	11/11	**Unit 3 Assessment**		
	11/13	Pharmacology: Antifungal Agents	Lee	3
13	11/18	Pharmacotherapy: Invasive Fungal Infections / Superficial Fungal Infections	Lee	1,2,4
	11/20	Pharmacology/Pharmacotherapy: Antimycobacterial Agents / Tuberculosis	Chang (critical care fellow)	1,2,3,4
	THANKSGIVING BREAK			
14	12/2	Pharmacology: Antiviral/Antiretroviral Agents	Cocchio	1,2,3,4
	12/4	Pharmacology/Pharmacotherapy: Antiviral Agents – Influenza / Influenza	Go	1,2,3,4
15	**CUMULATIVE FINAL EXAM (12/12/25, 9 AM – 12 PM)**			