

**Physiology and Pathophysiology with Pharmacotherapy Correlates**  
**PHAR 7301**  
Fall Semester 2024

**Course Description**

This course builds on the students' prior knowledge of physiology while introducing the pathophysiology of specific disease states in preparation for exploring the pharmacology and pharmacotherapy in subsequent courses.

**Additional Course Description**

**Course Credit**

3 credit hours

**Pre-Requisites**

None

**Co-Requisites**

None

**Class Meeting Days, Time & Location**

Tuesday and Thursday 2:00 - 3:30 p.m.

**Course Coordinator**

Ayman K Hamouda, BPharm, PhD  
W.T. Brookshire Hall Room XX  
Email: Ahamouda@uttyler.edu

**Office hours:**

Tuesdays 3:30-5 PM (P1 classroom) and by appointment/walk-in (WTB 369).  
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. 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**

**Recommended Materials**

**Course Format**

The course may include, but is 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) (1-15)	EPAs (1-13)	ACPE Appendix x 1	ACPE Std. 11 & 12 (1-4)	Assess ment Methods	Grading Method
1. Describe and discuss basic principles and concepts of physiology, pharmacology, and pharmacogenomics.	1	4	1.1.1 1.1.4 1.1.6	-	1,2	ES
2. Understand general principles of drug action, including drug receptors interactions, and the relationship between drug concentration and drug effect.	1	4-5	1.2.7 1.2.8 1.2.9	-	1,2	ES
3. Understand concepts and mechanisms of normal physiological processes and pathological processes underlying disease.	1	4-5	1.1.4 1.1.7	-	1,2	ES
4. Understand the relationship between pharmacokinetic and pharmacodynamic properties of drugs and their therapeutic benefit, side effects, and clinical uses.	1, 2	4-5	1.2.5 1.2.8 1.2.9	-	1-4	ES
5. Apply foundational concepts of physiology and pharmacology to identify and resolve medication-related problems, educate intended audience, advocate health care, and promote public health and wellness.	1, 4, 6, 7, 8	4-5	1.2.8	-	1-4	ES

## Course Assessment Methods:

	Assessment Method	Description
1	Exam Multiple Choice or Multiple Selection Question(s)	Standard MCQ and/or Select All that apply questions.
2	Exam Open Ended Question(s)	Short answer and/or fill-in-the blank questions.
3	Team Project	A team project/report may be added as part of the final exam or as bonus points.
4	Oral Presentation	An individual project/report may be added as part of the final exam or as bonus points.

## 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 Objective Structured Clinical Examinations (OSCE). Examinations, RATs and CATs may consist of multiple-choice, true/false, 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/Other Individual Activities	10%
Midterm Exam	50%
Final Exam	35%
tRAT and Team Applications	5%
<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 7301 Course Schedule

Block	Week	Day	Instructor	Topic
Nervous System	1	Tue: 08/27	Hamouda	Cellular Excitability
		Thu: 08/29	Hamouda	Cell-to-Cell Communication
	2	Tue: 09/03	Hamouda	Peripheral Nervous System
		Thu: 09/05	Hamouda	Autonomic Nervous System
	3	Tue: 09/10	Hamouda	Central Nervous System
		Thu: 09/12	Hamouda	Structure and Function of the Endocrine System
	4	Tue: 09/17	Hamouda	Information Integration and Control -HPA
		Thu: 09/19	Hamouda	Hypothalamic-Pituitary Axis and Neuroendocrine Control & Disorders
Renal & Respiratory Systems	5	Tue: 09/24	Hamouda	Neuropsychiatric Disorders-1
		Thu: 09/26	Hamouda	Neuropsychiatric Disorders-2
	6	Tue: 10/01	Hamouda	Examination 1: Nervous System
		Thu: 10/03	Brazil	Structure and Function of the Kidney
7	Tue: 10/08	Brazil	Disorders of Renal Function, Acute & Chronic Kidney Disease	
	Thu: 10/10	Brazil	Acid Base and Electrolyte Disorders	
Cardiovascular System	8	Tue: 10/15	Brazil	Structure and Function of the Cardiovascular System
		Thu: 10/17	Brazil	Hypertension
	9	Tue: 10/22	Brazil	Atherosclerosis
		Thu: 10/24	Brazil	Heart Failure
		Tue: 10/29		Career Success Conference
Gastrointestinal System	10	Thu: 10/31	Brazil	Acute Coronary Syndromes/Peripheral Vascular Disorders
	11	Tue: 11/05	Brazil	Cardiac Arrhythmias
		Thu: 11/07	Brazil	Structure and Function of the Respiratory System Asthma & Obstructive pulmonary disease
Endocrine System	12	Tue: 11/12	Brazil	Examination 2: Renal & Cardiovascular Systems
		Thu: 11/14	Brazil	Structure and Function of the Gastrointestinal System Disorders of Gastrointestinal Function
	13	Tue: 11/19	Brazil	The Liver and Hepatic/Hepatobiliary Disorders
		Thu: 11/21	Brazil	Thyroid Disorders and Female/Male Reproduction
	14	Tue: 11/26	Brazil	Obesity
Pharmacogenomics		Thu: 11/28		THANKSGIVING
	15	Tue: 12/03	Brazil	Diabetes
		TBD		Comprehensive Final Examination