Pharmacotherapy Case Studies (2) (#131702567)
First Semester 2025/2026

COURSE INFORMATION		
Course Name: Pharmacotherapy Case Studies (2) (Hybrid education) **Semester: First** **Department: Clinical Pharmacy & Pharmacy Practice** **Faculty: Pharmaceutical Sciences**		**Course Code: 131702567** **Sections: 1-10** **Core Curriculum: 2019 Study Plan**
Class number	**Day(s) and Time(s)**	**Classroom:**
1	**Sunday 8.30-10.30**	**208**
2	**Sunday 10.30-12.30**	**208**
4	**Monday 8.30-10.30**	**206**
5	**Monday 10.30-12.30**	**223**
6	**Tuesday 8.30-10.30**	**223**
7	**Tuesday 10.30-12.30**	**223**
8	**Tuesday 13.00-15.00**	**223**
9	**Wednesday 8.30-10.30**	**223**
10	**Wednesday 10.30-12.30**	**223**
11	**Wednesday 8.30-10.30**	**219**
Date prepared: October 2024 **Date updated: October 2025**		**Credit Hours:** 1 **Prerequisites**: 131702566 or concurrent

COURSE DESCRIPTION

This course uses patient-centered case studies to help pharmacy students apply pharmacotherapy concepts learned in earlier coursework such as Pharmacotherapy (1) and related foundational courses. It emphasizes clinical decision-making, identifying and resolving drug therapy problems, and developing comprehensive pharmacotherapeutic care plans.

Through group-based presentations and discussions, students will enhance their problem-solving, critical thinking, teamwork, and oral communication skills. Topics covered include upper and lower respiratory tract infections, urinary tract infections, gastrointestinal disorders (GERD, PUD), blood disorders (anemia), and rheumatologic and musculoskeletal conditions such as rheumatoid arthritis, osteoarthritis, and gout. The course encourages self-directed learning and fosters confidence in clinical judgment.

By the end of the course, students will be better prepared to integrate evidence-based guidelines into therapeutic plans and communicate effectively with healthcare teams.

DELIVERY METHODS

The course is delivered through interactive, case-based learning, with a strong emphasis on active student participation, clinical reasoning, and teamwork. The main teaching strategies include:

- **Group presentations:** Students are divided into small groups (11 per section). Each group is responsible for preparing and delivering a 30– 40-minute seminar on a specific clinical case and pharmacotherapy topic, including the development of a patient care plan.

- **Case-based discussion:** Each presentation is followed by an in-depth class discussion, facilitated by the instructor, to promote critical thinking, collaborative problem-solving, and application of clinical guidelines.

- **Instructor facilitation & feedback:** Instructors guide the discussion, pose clinical questions, provide clarification when needed, and offer constructive feedback on presentation content and delivery.

- **Self-Directed learning:** Students are expected to independently research their assigned topic, review relevant clinical guidelines, and use drug information resources to support their recommendations.

- **Reflective learning:** Time is allocated at the end of each session for students to reflect on key learning points, share insights, and consolidate knowledge.

Note: Presentations must be submitted at least 48 hours before the scheduled session to the class's instructor. Late submissions will result in a deduction of marks.

Example:

If your group is scheduled to present on Sunday at 8:30 am, you must submit your presentation no later than Friday at 8:30 AM.

FACULTY INFORMATION

Name	
Academic Title:	
Office Location:	
Telephone Number:	
Email Address:	
Office Hours:	***Please send an e-mail (……@hu.edu.jo) to meet at any other time.***

Name	
Academic Title:	
Office Location:	
Telephone Number:	
Email Address:	
Office Hours:	***Please send an e-mail (……@hu.edu.jo) to meet at any other time.***

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Name	**Tahani Alwidyan**
Academic Title:	**Assistant Professor**
Office Location:	**Third Floor, office No. (414)**
Telephone Number:	**Extension: 3414**
Email Address:	**alwidyantahani@hu.edu.jo, alwidyantahani@staff.hu.edu.jo**
Office Hours:	**Monday: 9.30-10.30 & 1.30-2.30** **Wednesday: 1.30-2.30** ***Please send an e-mail (……@hu.edu.jo) to meet at any other time.***

REFERENCES AND LEARNING RESOURCES

Primary References:

1) Pharmacotherapy Handbook 12th Edition (2023).

2) Pharmacotherapy Casebook: A Patient-Focused Approach, 11th Edition (2021).

3) Pharmacotherapy: A Pathophysiologic Approach, 12th Edition (2023) and 13th Edition (2024).

Useful Web Resource:

These websites provide essential tools for clinical decision-making, evidence-based guidelines, drug information, and disease management.

- **Lexicomp Online**
  https://www.wolterskluwer.com/en/solutions/lexicomp

  Comprehensive drug database with dosing, interactions, and patient education materials.

- **Micromedex Solutions**
  https://www.micromedexsolutions.com

  Clinical drug information and evidence-based clinical summaries.

- **UpToDate**
  https://www.uptodate.com

  Continuously updated clinical reference for disease diagnosis and management.

- **PubMed / NCBI**
  https://pubmed.ncbi.nlm.nih.gov

  Access peer-reviewed articles and clinical research for in-depth study.

- **World Health Organization (WHO)**
  https://www.who.int

  Global public health guidelines and medication safety alerts.

- **Centres for Disease Control and Prevention (CDC)**
  https://www.cdc.gov

  U.S.-based guidelines on infectious diseases, vaccination, and public health issues.

STUDENT LEARNING OUTCOMES MATRIX

Alignment matrix between the course objectives and the **course** learning outcomes (CLOs) with the **program** learning outcomes (PLOs).

Core Curriculum LOs	B.Sc. Pharmacy Program LOs	Course Objectives (1-4 as below)						Course Student LOs (A-D as below)				Assessment Method(s)
	Main Domain	**1**	**2**	**3**	**4**	**5**	**6**	**A**	**B**	**C**	**D**	
Foundational Knowledge	Learner		Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for drug efficacy, safety, cost, and patient-specific factors.		Monitor and assess therapeutic outcomes and adverse effects and adjust treatment plans based on patient response or therapeutic failure.			A.1				Exams, Case Seminars
			Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for drug efficacy, safety, cost, and patient-specific factors.					A.2				Exams, Case Seminars
Essentials for Practice and Care	Caregiver	Identify and evaluate		Apply pharmacokinetic and	Monitor and assess therapeuti			A.3				Exams, Case Seminars

		drug-related problems by interpreting patient-specific data, including symptoms, medical history, laboratory values, and current medications.		pharmacodynamic principles to recommend appropriate drug selection, dosing, administration, and monitoring strategies.	c outcomes and adverse effects and adjust treatment plans based on patient response or therapeutic failure.							
		Identify and evaluate drug-related problems by interpreting patient-specific data, including symptoms, medical history, laboratory values, and current medications.		Apply pharmacokinetic and pharmacodynamic principles to recommend appropriate drug selection, dosing, administration, and monitoring strategies.				A.4				Exams, Case Seminars
	Manager											
	Provider	Identify and evaluate drug-related problems by interpreting			Monitor and assess therapeutic outcomes and adverse effects				B.1			Exams, Case Seminars

		patient-specific data, including symptoms, medical history, laboratory values, and current medications.			and adjust treatment plans based on patient response or therapeutic failure.							
	Provider			Apply pharmacokinetic and pharmacodynamic principles to recommend appropriate drug selection, dosing, administration, and monitoring strategies.					B.2			Exams, Case Seminars
	Creative Thinker and Problem-solver		Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for drug efficacy, safety, cost, and patient-specific factors.			Communicate effectively with healthcare providers and patients using appropriate terminology and strategies for patient education and interprofessional collaboration.			B.3			Exams, Case Seminars
Approach to Practice and Care	Creative Thinker and Problem-solver											
	Problem-Solver		Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for		Monitor and assess therapeutic outcomes and adverse					C.1		Exams, Case Seminars

			drug efficacy, safety, cost, and patient-specific factors.		effects and adjust treatment plans based on patient response or therapeutic failure.							
	Educator		Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for drug efficacy, safety, cost, and patient-specific factors.							C.3		Exams, Case Seminars
	Educator					Communicate effectively with healthcare providers and patients using appropriate terminology and strategies for patient education and interprofessional collaboration.				C.4		Exams, Case Seminars
	Advocate											
	Communicator					Communicate effectively with healthcare providers and patients using appropriate terminology and strategies for patient education and interprofession				C.2		Exams, Case Seminars

						al collaboration.						
	Promoter											
Personal and Professional Development	Self-aware						Integrate care considerations for special populations, including paediatrics, geriatrics, pregnant or breastfeeding patients, and individuals with organ dysfunction.				D.2	Exams, Case Seminars
	Leader					Communicate effectively with healthcare providers and patients using appropriate terminology and strategies for patient education and interprofessional collaboration.					D.1	Exams, Case Seminars
	Collaborator					Communicate effectively with healthcare providers and patients using appropriate	Integrate care considerations for special population				D.3	Exams, Case Seminars

						terminology and strategies for patient education and interprofessional	s, including paediatrics, geriatrics, pregnant or breastfeeding patients, and individuals with organ dysfunction.					
	Innovator											
	Professional											
Pharmaceutical Product Expert	Manufacturer											

COURSE OBJECTIVES (CO)

Upon successful completion of this course, students will be able to:

1. Identify and evaluate drug-related problems by interpreting patient-specific data, including symptoms, medical history, laboratory values, and current medications.
2. Design evidence-based pharmacotherapeutic care plans that address prioritized medical problems and account for drug efficacy, safety, cost, and patient-specific factors.
3. Apply pharmacokinetic and pharmacodynamic principles to recommend appropriate drug selection, dosing, administration, and monitoring strategies.
4. Monitor and assess therapeutic outcomes and adverse effects and adjust treatment plans based on patient response or therapeutic failure.
5. Communicate effectively with healthcare providers and patients using appropriate terminology and strategies for patient education and interprofessional collaboration.
6. Integrate care considerations for special populations, including pediatrics, geriatrics, pregnant or breastfeeding patients, and individuals with organ dysfunction.

COURSE INTENDED LEARNING OUTCOMES** (ILOS)

A. Foundational Knowledge

Students will be able to:

A.1 Write a structured pharmacist care plan using the SOAP format (CO: 2 and 4).

A.2 Demonstrate understanding of therapeutic principles related to infectious diseases, GI disorders, blood disorders, and rheumatologic conditions (CO: 2).

A.3 Apply core pharmacological and pathophysiological knowledge to case-based scenarios (CO: 1, 3).

A.4 Describe drug mechanisms, therapeutic uses, and adverse effects in the context of patient care (CO: 1, 3, 4)

B. Essentials to Practice and Care

Students will be able to:

B.1 Interpret abnormal laboratory and diagnostic test results relevant to pharmacotherapy (CO: 1, 4).

B.2 Calculate clinical parameters such as renal function, BMI, and ideal body weight (CO: 3).

B.3 Utilize online clinical resources and drug databases to support decision-making (CO: 2, 5).

C. Approach to Practice and Care

Students will be able to:

C.1 Solve complex therapeutic problems through structured clinical reasoning (CO: 2, 4).

C.2 Collaborate effectively in group-based discussions and presentations (CO 5).

C.3 Apply national and international treatment guidelines in clinical case resolution (CO 2).

C.4 Demonstrate skills in patient education and counseling (CO 5).

D. Personal and Professional Development

Students will be able to:

D.1 Communicate professionally with peers, instructors, and healthcare team members (CO: 5).

D.2 Demonstrate self-directed learning, time management, and responsiveness to feedback (CO 6).

D.3 Work productively within a team to develop and present therapeutic solutions (CO 5, 6).

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:

Tel: **00962-5-3903333 Extension: 4209**
Location: **Students Affairs Deanship/ Department of Student Welfare Services**
Email: **amalomoush@hu.edu.jo**
amalomoush@staff.hu.edu.jo

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's**

responsibility to sign-in; failure to do so will result in non-attendance being recorded.

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

On average, students need to spend 15 hours of study and preparation weekly. At the beginning of the lectures, students should be on time and should not leave before the end of the lecture without an accepted excuse. **If the student missed a class, it is him/her responsibility to find out about any announcements or assignments they have missed.** For any clarification, students should communicate with their instructor at her posted office hours or by appointment. Students should listen well to the lecture, if anyone has a question, he/she should ask the instructor. Students can find the course material at the course Microsoft team/Model after the lecture.

Sharing of course materials is forbidden. No course material including, but not limited to, course outline, lecture hand-outs, videos, exams, and assignments may be shared online or with anyone outside the class. Any suspected unauthorized sharing of materials will be reported to the university's Legal Affairs Office. If a student violates this restriction, it could lead to student misconduct procedures.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or failing. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviors that compromise his/her own integrity as well as that of The Hashemite University.

Plagiarism includes the following examples, and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected.

Missed Assessments

In all cases of assessment, students who fails to attend an exam on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a failure grade for this part of the assessment.

- In cases where a student misses an assessment on account of a medical reason or with prior

permission; in line with university regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Cheating

Cheating, academic dis-conduct, fabrication and plagiarism will not be tolerated, and the university policy will be applied. Cheating policy: The participation, the commitment of cheating will lead to applying all following penalties together:

- Failing the subject, he/she cheated at.
- Failing the other subjects taken in the same course
- Not allowed to register for the next semester.
- The summer semester is not considered as a semester.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment:

Course Assessment Plan						
Assessment	Grade Weighting	Deadline	CILOs			
			A	B	C	D
First exam	30%	Every week (Appendix- 1)	A	B	C	D
Mid-term exam	30%	~ 8th week 23-27/11/2025	A	B	C	D
Final exam	40 %	~ 13th/ 14th week	A	B	C	D

Description of Exams

✓ **The Final exam is described as follow:**

- Test questions predominately come from material presented in the class and the class discussions.
- Semester exams may be conducted during the regularly scheduled weekly class period.
- Exams may consist of a combination of multiple choice, short answer, match, true and false, and/or descriptive questions.
- The final exam date is determined by the university.

- The final exams test students' theoretical knowledge of the topics and skills that were covered and discussed during the course.
- No make-up exams will be given. Only documented absences will be considered as per HU guidelines. Make-up exams may be different from regular exams in content and format.
- Grades are not negotiable and are awarded according to the following criteria:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

"Lecture hours and weeks are approximate and may change as needed."
Note: For the one lecture period per week (S/M/T/W), one lecture period covers 2 lecture hours (165 minutes). The course content specifies chapters of the textbook that will be included in exams.

Week No.	No of Hours	CILOs	Week Topic	Notes	Delivery Method	Assessment Method
1	1.5		Introduction to the course, the course outline and orientation	Week commencing by:		
2		A	**Topic 1** Upper respiratory tract infections (URIs) (Otitis media, sinusitis, pharyngitis, influenza)).	12/10	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	Exams, Case Seminars
3		A-D	**Topic 2** Lower respiratory tract infections (LRIs) (Pneumonia)	19/10	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning	

					resources	
4		A-D	**Topic 3** UTI: Lower urinary tract infection Upper urinary tract infection (Pyelonephritis)	26/10	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
5		A-D	**Topic 4** Gastrointestinal: GERD	2/11	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
6		A-D	**Topic 5** Gastrointestinal: PUD	9/11	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
7		A-D	**Topic 6** Blood disorders: Anemia	16/11	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
8	Mid-term exam as per Faculty Exam's committee (23-27/11)					
9		A-D	**Topic 7** Rheumatoid arthritis	30/11	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
10		A-D	**Topic 8** Osteoarthritis	7/12	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	
11		A-D	**Topic 9** Gout and hyperuricemia	14/12	PowerPoint presentations, active classroom-based discussion, Video lectures. E-learning resources	

12 & 13			Interactive Learning and Case Studies & Material Revision			
14	Final exam as per HU calendar					

Appendix 1: Seminar (Oral presentation)

SOAP note template for pharmacotherapy case presentations

- *Students should use this template to structure their weekly case presentations and care plans.*

Submission guidelines

- Format: power point, typed, max 30 slides
- Font (size): Times New Roman (24 min and 28 max).
- Submit: 48 hours before your scheduled presentation.
- Referencing: cite clinical guidelines or drug databases (e.g., Up to date, Lexicomp, Micromedex).

Section 1: Patient Information

Name/Initials:		Age:		Gender:	
Weight (kg):		Height (cm):		BMI:	
Allergies:		Social History: (e.g., smoking, alcohol, drug use)			

Medical History (including duration of condition)
Note: rows can be added

Medication History (generic name): (Include OTC/herbals)
Note: rows can be added

Section 2: S – Subjective (patient-reported data):

Chief complaint (CC):	
History of present illness (HPI):	
Symptoms (onset, duration, severity):	

Medication adherence:	
Relevant lifestyle/diet factors:	
Patient concerns or preferences:	

Section 3: O – Objective (clinically observed and measurable data):

a) Vital signs:

BP	HR	RR	Temp

b) Lab results (e.g., CBC, renal/liver panels, others):

Lab Test	Result	Normal Range	Interpretation
Note: rows can be added			

c) Diagnostic tests/imaging:

……
……
……

d) Physical exam findings:

……
……
……

e) Current medication regimen (with doses and frequencies):

Medication (generic name)	**Strength**	**Dose & Route**	**Frequency**	**Indication**	**Start Date**	**Stop Date**	**Clinical Notes**

Note: rows can be added							

Section 4: A – Assessment

a) Pharmacist's clinical interpretation:

Direction:

- List and prioritize active medical problems
- Identify drug therapy problems (e.g., indication, efficacy, safety, adherence)
- State therapeutic goals for each problem
- Include rationale and reference to clinical guidelines

Section 5: P – Plan

a) Management strategy for each problem:

1. Pharmacologic Therapy:
   - Drug name, dose, route, frequency, duration
   - Justification (why this drug/dose?)
2. Non-Pharmacologic Recommendations:
   - Lifestyle changes, dietary advice, etc.
3. Monitoring Plan:
   - Parameters for efficacy and toxicity
   - Timeline for follow-up
4. Patient Education:
   - Key counseling points
   - Expected side effects
   - Adherence tips

b) Follow-Up Plan

• When to reassess

• Criteria for success or change in therapy

Section 6: Pharmaceutical Care Patient Record

Patient Name:		**Gender:**
Address:		**Race:**
Telephone:	**Age:**	**Actual Weight:**
Insurance Status:		**Ideal Weight:**
Medical Conditions:		**Allergies:**
Tobacco/Alcohol/Substance Use:		**Adverse Drug Reactions:**

Medication record

Start date	Stop date	indication	Drug name	Actual strength	Regimen	Clinical impressions

Note: rows can be added

Assessment, Plan, and Follow-Up Evaluation

Date of assessment	**Medical Condition**	Drug Therapy Problem	Therapeutic Goal	Current Status	Pharmacist Interventions	Follow-Up Plan

Note: rows can be added						

Example

Date of assessment	7/10/2025
Medical condition	Hypertension
Drug therapy problem	Suboptimal control despite adherence
Therapeutic goal	Reduce BP <130/80 mmHg
Current status	BP 148/90 mmHg; patient reports mild dizziness
Pharmacist interventions	- Adjusted medication dosage - Educated patient on lifestyle modifications - Scheduled follow-up for lab review
Follow-up plan	- Reassess BP in 2 weeks - Monitor for adverse effects such as hypotension or fatigue

Important note: students' group per each section should send their presentation to the instructor (at the e-mail address or MS teams provided) **two days before their colleagues' talk** (i.e., on Saturday for Monday sessions, on Monday for Wednesday session).

Course outline created by Ms. Eman Harahsheh and updated by Dr. Tahani Alwidyan on October 2025.