

Syllabus* : :
Pharmacotherapy case
study (2) (#131702567)
Second Semester
2022 /2023

The Hashemite University



Deanship of Academic Development
and International Outreach



الجامعة الهاشمية



عمادة التطوير الأكاديمي
والتواصل الدولي

COURSE INFORMATION	
Course Title : Pharmacotherapy case study (2) (face-to-face education) Semester: first Department: Clinical Pharmacy & Pharmacy Practice Faculty: Pharmaceutical Sciences	Course Code: 131702567 Section: according to the semester Core Curriculum: 2013 Study Plan
Day(s) and Time(s): according to the course time table Classroom: according to the course time table	Credit Hours: 1 Prerequisites: 131702566 or concurrent
COURSE DESCRIPTION	
This course discusses patient case studies related to the topics covered in pharmacotherapy 2. It aims to help pharmacy students develop their critical thinking and problem-solving skills to identify and resolve drug therapy problems. By practicing developing patients' pharmacotherapeutic care plans for the patient case studies, students are actively engaged in the learning process, and developing their self-confidence, self-study and learning, decision-making process, oral communication and teamwork skills.	

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies.

These will include:

- Seminars in Groups (oral presentation power point) and a ctive classroom-based discussion of clinical cases. These seminars are designed to provide the student with the opportunity to apply his/her knowledge to a specific case, develop problem-solving skills and to further his/her comprehension on the topic. The seminars require the student to think about what he/she has learned and to discover how to apply his/her knowledge in solving drug-therapy problems. The primary role of the Small Group Seminar Facilitator is to coordinate this discussion, provide leadership to the students in the seminar, encourage the students to express themselves and ask questions, and ensure that any misconceptions are clarified.
- Care plan sheets, problem based learning (PBL) group work, team-based learning, and assignments.
- Practical training on Medical devices tools relevant to the topic to be discussed, e.g: sphygmomanometer digital and manual, blood glucose meter, nebulizer, inhalers..ect.
- Relevant videos and documents.
- Brochures and cards for patients and staff education including patients education and counselling
- E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team

FACULTY INFORMATION

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Office Hours:	Sunday 1-2 Monday 1-2 Wednesday 1-2	

REFERENCES AND LEARNING RESOURCES

Required Textbook(s):

1. Pharmacotherapy Handbook 11th Edition (2021)
Barbara G. Wells, Joseph T. DiPiro, Terry L. Schwinghammer, et al.
2. Pharmacotherapy Casebook: A Patient-Focused Approach, 11th Edition (2021)
Terry L. Schwinghammer, Julia M. Koehler, Jill S. Borchert, et al.
3. Pharmacotherapy: A Pathophysiologic Approach, 11th Edition (2020)
Joseph T. DiPiro, Gary C. Yee, L. et al.

Useful Web Resources:

Additional online resources may be useful in preparing for the therapeutic discussions such as:

1. Lexicomp
<http://www.lexi.com>
2. UpToDate
<http://www.uptodate.com>

STUDENT LEARNING OUTCOMES MATRIX*

Core Curriculum LOs	B.Sc. Pharmacy Program LOs	Course Objectives (1-6 as below)						Course Student LOs (A-D as below)				Assessment Method(s)
		1	2	3	4	5	6	A	B	C	D	
	Main Domain											

Foundational Knowledge	Learner	Describe and explain the pathophysiology, etiology, diagnosis, risk factors, clinical presentations and complications of the disease processes occurring in the patient.	Recognise drugs of choice, alternative therapies, nonpharmacologic and pharmacologic therapy, usual doses and dosage forms, common and serious side effects, clinically significant drug-drug, -food, -disease or -laboratory test interactions, therapeutic and safety monitoring parameters, therapeutic goals and, integration of multiple disease conditions into therapeutic decisions.					A.1 A.2 A.3 A.4 A.5 A.6				Exams seminars Quizzes Care plan sheet
Essentials for Practice and Care	Caregiver			Integrate and apply knowledge from the basic and clinical sciences courses in the curriculum into the therapeutic decision-making process.	Develop appropriate and cost-effective pharmaceutical care plan for their provision of patient-centred care.	Identify, analyse, interpret, integrate and evaluate clinical findings to solve patient therapeutic problems.		B.1 B.2 B.3				Exams seminars Quizzes Care plan sheet

	Manager											
	Provider			Integrate and apply knowledge from the basic and clinical sciences courses in the curriculum into the therapeutic decision-making process.	Develop appropriate and cost-effective pharmaceutical care plan for their provision of patient-centred care.	Identify, analyse, interpret, integrate and evaluate clinical findings to solve patient therapeutic problems.			B.1 B.2 B.3			Exams seminars Quizzes Care plan sheet
Approach to Practice and Care	Creative Thinker and Problem-solver			Integrate and apply knowledge from the basic and clinical sciences courses in the curriculum into the therapeutic decision-making process.	Develop appropriate and cost-effective pharmaceutical care plan for their provision of patient-centred care.	Identify, analyse, interpret, integrate and evaluate clinical findings to solve patient therapeutic problems.				C.1 C.2 C.3 C.4 C.5 C.6		Exams seminars Quizzes Care plan sheet
	Educator									C.6		Exams seminars Quizzes Care plan sheet

	Advocate									C.3 C.4 C.5 C.6		Exams seminars Quizzes Care plan sheet
	Communicator											
	Promoter									C.1 C.2 C.3 C.4 C.5 C.6		Exams seminars Quizzes Care plan sheet
Personal and Professional Development	Self-aware						Self-learn how to identify and manage medication-related problems.				D.2	Exams seminars Quizzes Care plan sheet
	Leader										D.3	Exams seminars Quizzes Care plan sheet

	Innovator										D.3	Exams seminars Quizzes Care plan sheet
	Professional						Self-learn how to identify and manage medication-related problems.				D.1 D.2 D.3	Exams seminars Quizzes Care plan sheet
	Collaborator										D.1 D.2	Exams seminars Quizzes Care plan sheet
Pharmaceutical Product Expert	Manufacturer											

Course Objectives

Upon successful completion of this course, student will:

1. Identification and assessment of patient complaints as they relate to drug therapy and drug-related problems:

A. Upon clinical presentation of a patient with multiple medical problems (including signs, symptoms, laboratory and radiographic test results, and medication use history), the student is able to:

- 1. Discuss the pathophysiology, etiology and risk factors of the disease processes occurring in the patient.**
- 2. Prioritize the active medical problems, disease states, symptoms, and/or abnormal laboratory values that may:**

a. Require drug therapy

b. Be aggravated or induced by drug therapy

c. Alter the drug selection or dosage regimen (e.g., because of altered renal or liver function, or allergies)

B. Upon review of current and past medication history, the student is able to identify the drug-induced problems and be able to discuss:

- 1. The risk(s) and benefit(s) of maintaining drug therapy**
- 2. The clinical importance of the drug-induced reactions**
- 3. The mechanism(s) and management of the drug-induced problems**

2. Drug selection: For problems that require drug therapy, the student is able to:

A. Assess and describe the possible risks and the anticipated benefits of any required drug therapy.

B. Establish the therapeutic goals and a time frame for anticipated response.

C. Design the most efficacious, least toxic and most cost-effective drug regimen for the patient.

D. Prioritize therapeutic alternatives, both drug and non-drug treatments, and recognize their comparative efficacy, ease of administration, toxicity, and cost.

E. Discuss the differences in efficacy, toxicity, routes of administration, elimination, distribution, and cost among the classes of drugs available for the treatment of the given disease state.

F. Select the appropriate drug therapy based upon the severity of the disease state and appropriateness of each drug class (i.e., advantages and disadvantages).

G. Predict the influence of selected drug(s) on patients' comorbid conditions and design an appropriate regimen (drug, dosage form, dosage regimen, drugs to be avoided, goals, monitoring parameters) based upon these influences.

H. Identify potentially clinically relevant drug-drug, drug-food, drug-disease or drug-laboratory test interactions based upon the recommended regimen and design an appropriate course of action that should be taken (discontinuation of therapy, alteration in timing of administration, etc).

3. Dosage regimens:

A. For each of the drugs selected, the student is able to:

1. Describe the pharmacodynamics of the drug

2. Design a safe and efficacious dosage regimen including the dose, dosage interval, route, rate and time of administration, taking into account the patient's age, weight, organ function, or other medical problems that may alter drug pharmacokinetics or selection of administration route (e.g., NPO status, thrombocytopenia, bowel resection).

3. Monitoring therapy

B. For each established therapeutic goal, disease state, or drug therapy, the student is able to:

1. List all parameters that must be monitored for achievement of outcome, toxicity or adverse effects.

2. Predict the time at which maximum efficacy or toxicity may be expected from a given dosage and route of administration.

3. Assess the patient for therapeutic or toxic outcomes and determine the degree of success or failure of the current regimen.

4. Determine the length of therapy and frequency of evaluation, if therapy achieves the desired outcome(s).

5. Identify factors that may have contributed to therapeutic failure if therapy does not achieve the outcome(s).

6. Select an alternative therapy that should be used in case of therapeutic failure.

4. Monitoring for adverse effects

A. For each drug, the student is able to list and describe the most frequent adverse reactions. The student is able to explain the clinical importance of these adverse reactions.

B. For each adverse reaction, the student is able to:

- 1. Recommend monitoring parameters.**
- 2. Determine whether the reaction is being experienced by a specific patient.**
- 3. List appropriate questions to be asked of the patient to determine if adverse effects are occurring.**

4. Determine (using appropriate reference sources) whether the presence of this effect warrants discontinuance of the drug.

a. If the medication is continued, the student is able to recommend concurrent treatment of the reaction, if necessary.

b. If the medication is discontinued, the student is able to suggest a therapeutic alternative.

5. Patient education

A. The student is able to demonstrate the ability to communicate effectively with the patient by using lay language and techniques appropriate to ensuring patient adherence to the therapeutic plan.

B. For each drug or device, the student is able to counsel the patient to achieve safe and effective use.

C. For each drug, the student is able to counsel the patient on the most common side effects of the specified drug.

6. Special populations: For each disease state where it is relevant, the student is able to discuss the factors to consider in the overall therapeutic plan in the following special populations:

- 1. Neonates**
- 2. Children**

3. Elderly 4 Pregnant women 5. Nursing mothers
Intended Learning Outcomes
A. Foundational Knowledge A1. Identify disease Pathophysiology, disease management, clinical pharmacology and therapeutic uses of drugs A2. Recognize drug therapy problems, care plan, SOAP note, decision making, communication and patients education. B. Essentials to Practice and Care B.1 Assess abnormalities in Lab tests, Kidney function and Liver function...etc B.2 Apply basic internet-web browsing skills needed to obtain guidelines treatment of various diseases as well as to drug databases. A. Approach to Practice and Care: C.1 Practice solving basic pharmaceutical problems, group discussion, teamwork, and synergy in finding answers to basic and clinical questions arising from case study. C.2 formulate proper clinical decision for best patient care plan, education and communication. B. Personal and Professional Development: D-1 Develop of problem solving and critical thinking skills. D-2 Communicate effectively with the medical team concerning the use of laboratory tests in the diagnosis of diseases.

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 a 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.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. 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 behaviours 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

Late or Missed Assignments

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

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- 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.

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 and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

COURSE ASSESSMENT PLAN						
Assessment	Grade Weighting	Deadline Assessment	CILOS			
			A	B	C	D
Seminar (case study discussion)	22%	Every week	A	B	C	D
Mid-term examination	30%	The 8 th week	A	B	C	D
MCQ BY GROUP	8%	The 13 th week	A	B	C	D
Final exam	40%	The 14 th week	A	B	C	D
			A	B	C	D

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

Homework: Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.

You are also expected to work on in-chapter examples, self-tests and representative number of end of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

Quizzes: Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce that you come prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

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 pharmacotherapy 2 case study sections with one lecture periods per week (S, M,T, W, T), one lecture period covers one topic -lecture hours (160 minutes). The course content specifies the sections in chapters of the textbook that will be included in quizzes, homework and exams.

All lectures are delivered by face –to-face learning.

Week	Credit Hours	ILOs	Topics	Teaching Procedure	Assessment methods

1 13/10	3		Introduction, group distribution, course outline discussion	Lecturing	Midterm & final exams
2 20/10	3	A B C D	Upper respiratory tract infections (URIs) (Otitis media, sinusitis, pharyngitis, influenza))	Lecturing, Case discussion	Midterm & final exams
3 27/10	3	A B C D	Lower respiratory tract infections (LRIs) (Pneumonia)	Lecturing, Case discussion	Midterm & final exams
4 3/11	3	A B C D	UTI: Lower urinary tract infection Upper urinary tract infection (Pyelonephritis)	Lecturing, Case discussion, Seminar	Midterm & final exams
5 10/11	3	A B C D	Gastrointestinal: GERD	Lecturing, Case discussion, Seminar	Midterm & final exams
6 17/11	3	A B C D	Gastrointestinal: PUD	Lecturing, Case discussion, Seminar	Midterm & final exams
24/11			Midterm Exam		
7 1/12	3	A B C D	Blood disorders: Anemia	Lecturing, Case discussion, Seminar	Midterm & final exams
8 8/12	3	A B C D	Rheumatoid arthritis	Lecturing, Case discussion, Seminar	Midterm & final exams

9 15/12	3	A B C D	Osteoarthritis	Lecturing, Case discussion, Seminar	Midterm & final exams
10 22/12	3	A B C D	Gout and hyperurecemia	Lecturing, Case discussion, Seminar	Midterm & final exams

ASSESSMENT RUBRICS

Assessment Rubrics to be determined by the department. Add samples below.

Classroom Participation: Oral Presentation										
Element	Excellent			Satisfactory			Needs Improvement			P o i n t s
	8	7	6	5	4	3	2	1	0	
Organization	- There is a logical sequence of information. - Title slide and closing slide are included appropriately.			- There is some logical sequence of information. - Title slide and closing slides are included.			- There is little or no logical sequence of information. - Title slide and/ or closing slides are not included.			
Slide Design (text, colors, background, illustrations, size, titles, subtitles)	Presentation is attractive and appealing to viewers.			Presentation is somewhat appealing to viewers.			Little to no attempt has been made to make presentation appealing to viewers.			
Content	- Presentation covers topic completely and in depth. - Information is clear, appropriate, and accurate.			- Presentation includes some essential information. - Some information is somewhat confusing, incorrect, or flawed.			- Presentation includes little essential information. - Information is confusing, inaccurate, or flawed.			
Language	- Spelling, grammar, usage, and punctuation are accurate - Fluent and effective			There are minor problems in spelling, grammar, usage, and/or punctuation.			- There are persistent errors in spelling, grammar, usage, and/or punctuation. - Less or not fluent and effective.			
Delivery	- Ideas were communicated with enthusiasm, proper voice projection and clear delivery. - There was sufficient eye contact with audience. - There were sufficient use of other non-verbal communication skills.			- There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact. - Insufficient use of non-verbal communication skills.			- There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact. - No use of non verbal communication skills.			

	▪ Appropriate delivery pace was used.	▪ Delivery pace is somewhat appropriate.	▪ Inappropriate delivery pace was used.	
Interaction with Audience	▪ Answers to questions are coherent and complete. ▪ Answers demonstrate confidence and extensive knowledge.	▪ Most answers to questions are coherent and complete. ▪ Answers somehow demonstrate confidence and extensive knowledge.	▪ Answers to questions are neither coherent nor complete. ▪ Is tentative or unclear in responses.	
	Total Score (Y x 5/16) =			

Marking criteria	Points (22)
Overall organisation & format (introduction, body of information including guidelines and therapeutic algorithms, references, 10 slides min and 15 slides max each (topic and case), font size 24 min and 28 max, time: 20 minutes topic presentation and 20-30 min case presentation including pharmacotherapy plan)	3 (organisation & format, time) **By gp
Content and questions (correct, clear, comprehensive) – Introduction about the disease/condition being treated (definition, clinical presentaion, risk factors, diagnosis) – Case discussion : · Goals of therapy · Non-pharmacological therapy · Pharmacological therapy (including alternatives, complete drug regimen, monitoring parameters) · Patient education – Answering the instructor's questions correctly and clearly – Answering MCQ questions correctly and can explain their answer	Total: 16 3/group 1/group 1/group 3/goup 2/group 3/presenter 3/group (0.5 mark for a correct answer i.e. 3 marks for 6 questions & presenters can pass three questions of the 8)
Presentation skills (confident, engaging, vocal variety: tone, pace, volume reflecting the presenter connection to what they are saying, word spelling, grammar, punctuation.)	3

يمكن اجراء التعديلات المناسبة حسب طبيعة المقرر وبالتنسيق مع الكلية المعنية وتحديد أنواع التعلم بوضوح (الالكتروني، مدمج، وجاهي) ونماذج التعلم (نسبة التعلم الوجيه الى الألكتروني ونسبة التعلم المتزامن الى غير المتزامن) التي سوف يتم اتباعها أثناء تدريس المساقات وبما يتواءم مع نسب الادمج المشار اليها في كتاب مجلس التعليم العالي رقم مع/١٤٢٧