



The University of Jordan
Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Surgery Clerkship
2	Course number	1203606
3	Credit hours (theory, practical)	2 hours

	Contact hours (theory, practical)	Two weeks (8-2 pm Su-Thu)
4	Prerequisites/corequisites	Students must have successfully completed their basic curriculum of 5 th Year. Students must be in their final year of undergraduate Pharm.D education.
5	Program title	Doctor of Pharmacy (Pharm D)
6	Program code	None
7	Awarding institution	The University of Jordan
8	Faculty	Pharmacy
9	Department	Biopharmaceutics & Clinical Pharmacy
10	Level of course	undergraduate
11	Year of study and semester (s)	First and Second semester of the 6th year
12	Final Qualification	Doctor of Pharmacy (Pharm D)
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	September 2021

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Dr Sameh AL-Zubaidi

Office hours to be announced

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Pharm.D Dana Al-Shamayleh

E-mail: dana.alshamayleh65@gmail.com

Office number: 203

18. Course Description:

As stated in the approved study plan.

This course aims to provide students with the knowledge of clinical manifestations, complications, goals of pharmacotherapy and patient education in preoperational procedures, induction of anaesthesia, general anaesthesia and the management of postoperative nausea and vomiting and pain. The student will receive exposure to surgery clinical training by working with surgery preceptors and documenting cases for surgery at JUH and other selected training centres. Students will have the opportunity to collect data, communicate with patients and other healthcare professionals, perform in patient clinical pharmacy services and observe at least one real life patient preparation for surgery and anaesthesia. The student will also have the opportunity to participate in educational activities occurring at the Inpatient level.

19. Course aims and outcomes:

A- Aims:

1. Orientation of the students to the institute they are training in.
 - a. Being familiar with the hospital rules and hierarchy.
 - b. Knowing the floor they should be at and the team they should work with.
 - c. Knowing how to deal with the hospital computer system to check for all the patients assigned for their team and their file numbers.
 - d. Knowing where to find the files and knowing the coding system for the files, where to find the old file.
 2. Properly reading medical files and medication sheets.
 3. Knowing how to select the most appropriate drug reference book,
 4. Knowing how to get guidelines from the best resource for each disease
 5. Understanding medical terminology and common medical abbreviations used in medical records
 6. Master patient interviewing skills
 7. Independently gather patient data and assess patient parameters necessary to recommend and monitor the effectiveness of rational drug therapy
 8. Interpret the results of laboratory tests used for monitoring of treatment efficacy and safety
 9. Use medical and pharmaceutical calculations appropriately
 - a. Kidney function
 - b. Liver function
 - c. Ideal body weight
 - d. Adjusted Ca level
 - e. properly calculate the correct dose of medication and IV fluids
 10. Assess medical literature relevant to the patient and his medications
 - a. Critically appraise medical information
 11. Effectively communicate with other health care professional
 12. Identify and analyse TREATMENT related problems
 - a. To know the ability of patient to check for the most drug- drug interactions among patient medications and how to monitor or manage such interactions.
 - b. Medication errors
 - i. Translational/transcribing error
 - ii. Dispensing errors
1. Look a like
 2. Doses / decimals
 - iii. Administration errors

B- Course Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

A. Knowledge and Understanding:

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- A1. Recognize the risk stratification of surgery patients and the risk for surgery related complications.
 - A2. Recognize the desired outcomes of drug therapy in the pre and post- operative settings.
 - A3. Describe the clinical management of the DVT prophylaxis, PONV, pain, medication adjustments pre and post surgeries, antimicrobial surgical prophylaxis and basic concepts of local and general anesthesia.
 - A4. Identify drug-related problems such as, clinically significant side effects, interactions, and contraindication to medications used in the treatment of selected respiratory, renal, infectious, gastrointestinal & musculoskeletal diseases.
 - A5. Recognize the pharmacologic properties and differences between sedatives, hypnotics, neuromuscular blocking agents and general anesthetics.

B. Intellectual Skills

- B1. Design appropriate pharmacologic and non-pharmacologic plans to optimize the clinical outcomes for surgery patients.
- B2. Compare between rational and irrational drug therapy in prehospital, in hospital and upon discharge for surgery patients.
- B3. Design plans for monitoring drug efficacy, adverse effects, compliance and drug interactions
- B4. Categorize patients according to risk of anaesthesia according to the score of American society of anaesthesiologists.
- B5. Conduct appropriate intervention while in clinical round.

C. Subject Specific Skills

- C1. Evaluate and solve drug-related and patient-related problems
- C2. Design rational pharmacotherapy regimen and monitoring plan for drug regimen to achieve therapeutic outcomes according to the patient specific condition.
- C3. Apply learned information in providing appropriate patient counseling.
- C4. Evaluate drug administration techniques, pharmaceutical calculations and reconstitution of various parenteral preparations.

D. Transferable skills:

- D1. Provide information related to diseases and their management through browsing the internet professional sites.
- D2. Collect and interpret information from medical guidelines & journal databases (MEDLINE, elibrary)

Program Competencies Achieved:

- 2.3 Identify pathophysiological basis of major human diseases
- 2.4 Assess symptoms and diagnostic tests and correlate them with associated diseases
- 2.8 Identify indications, side effects and contraindications of medicines
- 2.9 Identify drug-drug and drug-food interactions of medicines
- 2.15 Verify that patient therapy is based on best scientific evidence available
- 2.17 Advise patients and other health professionals on proper usage of medicines including their strength, frequency, dosage form and route of administration
- 2.18 Identify any medicament-related problems and take appropriate actions to resolve them
- 2.19 Recommend necessary modifications to patient therapy to optimize its safety and efficacy
- 7.4 Follow new advances in science related to the profession
- 7.5 Utilize information technology tools to enhance working experience.

20. Topic Outline and Schedule:

Number	Year	Guideline	Author organization
.1	2021	1. Overview of control measures for prevention of surgical site infection in adults.	Uptodate.com
.2	2019	2. Antimicrobial prophylaxis for prevention of surgical site infection in adults. Management of postoperative nausea and vomiting	UptoDate.com SOGC GUIDELINE
.3	2021	Prevention of venous thromboembolic disease in surgical patients.	Up-to-date ACCP9 GUIDELINE
.4	2021	1. Management of acute perioperative pain	Up-to-date
.5	2020	2. Perioperative uses of intravenous opioids in adults Perioperative medication management	Up-to-date UpToDate
.6	2021	Overview of anesthesia and anesthetic choices	Kodakimble perioperative care 10 th edition section 6
.7	2021	Perioperative management of diabetes mellitus	UpToDate
.8	2021	Management of glucocorticoids and warfarin in the perioperative	PowerPoint Kodakimble, perioperative care 10 th edition

21. Teaching Methods and Assignments:

COURSE TEACHING AND LEARNING ACTIVITIES

1. Interactive class discussion
2. Presentations and critical readings
3. Pharmacy services documentation and manual completion.
4. Clinical rounds with both residents and clinical pharmacist instructors
5. Discussion with the PhD course coordinator
6. Final Exam.

Learning skills:

1. Critical thinking
2. Digital literacy
3. Problem-solving skills
4. Self-directed learning

22. Evaluation Methods and Course Requirements:

Assessment method	Description	Weight
Oral case discussions and assignments with instructors	Case discussions and assignments will be performed every day during clinical rounds. <ul style="list-style-type: none"> • Focus will be on topics related to surgery. • Other medical conditions including CVD, HTN, and diabetes should be addressed appropriately. • Patient education about diseases and drugs should be addressed appropriately 	30 %
Oral case discussion with coordinator	1-2 case discussions will be required by the course coordinator. Cases that will be discussed are chosen by students. Sometimes one case may be discussed for all students.	10%
Non – interactive osce	Reading /analyse anesthesia sheet	5%
Evaluation		5 %

Presentations	Students will present and lead a discussion of one of the course content topics. Their presentation should include a summary of the main points discussed in the guideline and an evaluation of its relevance to the understanding of the topic. Presenters should prepare a brief handout (2-3 pages) for distribution before the talk and should be prepared to motivate discussion afterwards, as necessary. Questions will be at the end of the presentation. The marking sheet and criteria for assessment will be given in class. This will be marked by clinical instructors.	5 %
Quizzes	One quiz is required in the 4-week duration. <u>NO MAKE UP FOR QUIZZES</u>	5 %
Ethics dilemma case	One case discussion and assignment at end of rotation	5 %
Journal club	Student discuss an article related to surgical procedure changes during Covid-19	5 %
Final exam	Final exam will be a mixture of both MCQ and essay questions. It will include cases like those encountered in your clinical training. All topics listed in course content will be included. Part of the exam will be as an open book, some topics will not be allowed to be introduced into the exam room.	30 %

Distribution of final examination material (may vary depending on material included):

35% - diseases: etiology & pathogenesis, clinical presentation, stages & classification, complications, disease management guidelines, pharmacotherapy goals, patient education

35% - pharmacotherapy: clinical uses, method of administration, monitoring for efficacy and adverse effects, drug interactions, & contraindications, patient counseling

30% - integration and analysis (solving treatment problem issues and providing clinical recommendations)

23. Course Policies:

A- Attendance policies:

Attendance: students are allowed to be absent for not more than 10% of rotation period (maximum days of absence allowed : 2 days with an excuse)

B- Absences from exams and handing in assignments on time:

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures: NA**D- Honesty policy regarding cheating, plagiarism, misbehavior:**

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty. Penalty of cheating includes all of the following :

1. Students failure in the course
2. Cancellation of all courses registered in the same semester
3. Separation from university for one semester following the semester in which the student tries to cheat and this means that one academic year will be lost for just trying to cheat.

F- Available university services that support achievement in the course:

Meeting rooms, internet, classes and in patient rounds.

24. Required equipment:

Data show and internet connection for power point presentations

25. References:**A- Required book (s), assigned reading and audio-visuals:**

1. Pharmacotherapy principles & practice. ed. Chisholm-Burns *et al*, 3rd edition, 2013.
2. Pharmacotherapy: A Pathophysiological Approach, ed. DiPiro *et al*, 9th edition, 2014.
3. Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs, 10th edition, 2013.
4. Disease management guidelines (specified in lecture notes).
5. Injectable Drugs Guide, 1st edition, Gray, Alistair; Wright, Jane; Goodey, Vincent; Bruce, Lynn, 2011.
6. Drug Information: A Guide for Pharmacists, 5e, Patrick M. Malone, PharmD, FASHP, Karen L. Kier, PhD, MSc, RPh, BCPS, BCACP, John E. Stanovich, RPh, Meghan J. Malone, PharmD, BCPS, CACP

B- Recommended books, materials, and media:

1. Clinical Pharmacy and Therapeutics, ed. Walker & Whittlesea, 5th edition, 2012.
2. Basic & Clinical Pharmacology, ed. Katzung, 12th edition, 2012.
3. Pathophysiology of the disease: an introduction to clinical medicine, ed. McPhee & Hammer, 6th ed, 2010
www.accesspharmacy.com (can be accessed through the University of Jordan Library)

26. Additional information:

No side talks during rotations

No mobile phones during rotations.

Students must maintain the following standards at all times during the clerkship.

- *Professionalism*
- *Strong work ethic*
- *Patient advocacy and education*
- *Sensitivity and awareness of diversity in patient population*

Copy to:

Head of Department
Assistant Dean for Quality Assurance
Course File