

Surgery clerkship course outline

Course title	Surgery clerkship +Psychiatry-geriatry				
Course code	١٢٠٣٦٠٦+1202604	Credit hours	4 hours		
Department	Department of Biopharmaceutics and Clinical Pharmacy	Faculty	Pharmacy		
Pre-requisites Course Code	Students must have successfully completed their basic curriculum of 5 th Year. students must be in their final year of undergraduate pharmD education	Co-requisites Course Code	None		
Course Coordinator(s)	Dr. AlaIssa Prof. MayyadaWazayfi DrMaysaSuyagh DrEman Abu Reesh				
Email	alalaham@hotmail.com				
Course lecturers	JUH instructors : Clinical Pharmacist EmanElayeh Clinical Pharmacist Saba Madain				
Email	emanelayeh@gmail.com sabamadain@yahoo.com				
Place	Second floor , beside biochemistry lab				
Course type	<input checked="" type="checkbox"/> Core Course <input type="checkbox"/> Compulsory <input type="checkbox"/> Elective <input type="checkbox"/> Other				
Offer in Academic Year	<input checked="" type="checkbox"/> 1st Semester <input checked="" type="checkbox"/> 2nd Semester <input type="checkbox"/> Year Long <input type="checkbox"/> summer				
Office hours					
Day /time	Sunday	Monday	Tuesday	Wednesday	Thursday
	1-2	1-2	1-2	1-2	1-2
COURSE DESCRIPTION					
The student will receive exposure to surgery clinical training by working with surgery residents and faculty. Each week of the rotation will be spent in a different specialty (endocrine, orthopedic, GI, urology) . The student will also have the opportunity to participate in educational activities occurring at the Inpatient level.					
COURSEOBJECTIVES					
<ol style="list-style-type: none"> 1. Orientation of the students to the institute they are training in. <ol style="list-style-type: none"> 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 read medical files 3. Knowing how to use a drug reference book, 					

4. Knowing how to get guidelines from the best resource for each disease
 5. Understand medical terminology and common medical abbreviations used in medical records
 6. Properly read medications sheets
 7. Learn interviewing skills
 8. Independently gather patient data and assess patient parameters necessary to recommend and monitor the effectiveness of rational drug therapy
 9. Interpret the results of laboratory tests used for monitoring of treatment efficacy and safety
 10. 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
 11. Suggest and interpret results of additional diagnostic tests necessary for therapy assessment
 - a. cardiac echo,
 - b. ECG,
 - c. chest X-ray,
 - d. endoscopy,
 - e. bone DXA,
 12. Assess medical literature relevant to the patient and his medications
 - a. Critically appraise medical information
 13. Effectively communicate with other health care professional
 14. Identify and analyze 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

INTENDED LEARNING OUTCOMES

A. Knowledge and Understanding: *Student is expected to know and understand the following*

1. DVT risk of the patient according to the latest ACCP or NICE guideline.
2. Perioperative management of diabetes and hypertension and thyroid problems and laboratory tests needed before surgery according to guidelines.
3. How to manage drugs peri-operatively (if to continue or discontinue or initiate, or change the dose according to case) from guidelines and UpToDate.
4. Pain management after surgery according to guidelines.
5. Post operative management of nausea and vomiting according to the SOGC and ASA guidelines.
6. Antimicrobial prophylaxis prior to surgery, knowing types of SSI, and types of surgery, and best ways to lower SSI.
7. Management of Diabetic foot infection and cellulites

8. Types of anesthesia (local,general,etc...) advantages and disadvantages
9. Learning pharmacology of sedatives and hypnotics and analgesia used in anesthesia and the procedure of anesthesia
10. Being familiar with Orthopedic surgery, cardiac surgery, G.I. surgery, endocrine surgery, urology surgery

B. Intellectual Analytical and Cognitive Skills: *Student is expected to*

1. Categorize patients according to risk of anesthesia according to the score of American society of anesthesiologists.
2. Conduct appropriate intervention while in clinical round.

C. subject specific skills

1. Specific drug administration technique.
2. Rate of infusion
3. Final concentration
4. In-combatable admixture
5. Calculations
6. Stability after dilution/reconstitution
7. Nearest vial size calculation
8. Central line calculation
9. Proper categorization of DRP
10. Resolve and prevent drug related problems.
11. Patients' education / counseling
12. Propose appropriate "Pharmacy Care Plan" PCP
13. Conduct simple physical examination: pulse and respiratory rate, temperature, weight and height, blood pressure, general appearance of a patient
14. Be able to prioritize the clinical pharmacist interventions
15. Apply all the skills learned in effective and timely manner

D. Transferable Key Skills: *Students is expected to gain the following skills*

- Professionalism
- Strong work ethic
- Patient advocacy and education
- Self directed learning
- Sensitivity and awareness of diversity in patient population
- Internet search for evidence based medicine

COURSE TEACHING AND LEARNING ACTIVITIES

1. Interactive class discussion
2. Presentations and critical readings
3. Lectures
4. Clinical rounds with both residents and clinical pharmacist instructors

COURSE ASSESSMENT METHODS		
Assessment method	Description	Weight
Pharmacist care manual	Four cases are required during the 4-week rotation period. For each case, one pharmacist care manual should be comprehensively filled. Instructions are provided in a separate document " how to fill pharmacist care manual ".	10%
Oral case discussions with instructors	<ul style="list-style-type: none"> • 3-4 case discussions during the four-week rotation will be required from each student. • Focus will be on topics related to surgery. • Other medical conditions including CVD, HTN, and diabetes should be addressed appropriately. • Patient education about any diseases and drugs should be addressed appropriately 	10%
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 %
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	Two quiz is required in the 4-week duration. No Make Up For Quizzes	15 %

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.	50%
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ESSENTIAL READINGS (textbooks, journals, website addresses)

1. Pharmacotherapy: A Pathophysiological Approach, ed. DiPiro, 9th edition, 2014. McGraw-Hill Medical. **ISBN-13: 978-0071800532.**
2. Applied Therapeutics: The Clinical Use of Drugs, ed. Koda-Kimble, 10th ed, 2013. Wolters Kluwer Health/Lippincott Williams & Wilkins. **ISBN-13: 978-1609137137.**
3. Pharmacotherapy Casebook: a Patient-focused Approach, ed. Schwinghammer TL, Koehler JM, 9th edition. 2014. McGraw-Hill Medical. **ISBN-13: 978-0071830133.**
4. Pharmacotherapy principles and practice. Chisholm-Burns MA, 3rd edition, 2013. McGraw-Hill Medical. **ISBN-13: 978-0071780469.**
5. Clinical Pharmacy and Therapeutics, ed. Walker & Whittlesea, 5th edition, 2011. Churchill Livingstone. **ISBN-13: 978-0702042935.**
 - **Injectable Drugs Guide**, 1st edition, Gray, Alistair; Wright, Jane; Goodey, Vincent; Bruce, Lynn, 2011
 - Journals and websites are shown in table 2.

COURSE POLICY (including plagiarism, academic honesty, and attendance)

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.

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)

Table 1: final exam material

Topic	Open/ closed book material
1. Prevention of VTE in Nonsurgical Patients : ACCP 2012	Open book
2. Antimicrobial prophylaxis for SSI (Depiro book)	
3. Management of common opioid adverse effects	
4. Management of postoperative pain	
5. Management of osteoporosis in postmenopausal women:2010 position statement of The North American Menopause Society	
6. American Geriatrics Society Updated Beers Criteria forPotentially Inappropriate Medication Use in Older Adults (<i>self reading</i>)	
7. Osteoporosis: assessing therisk of fragility fracture	
8. American Gastroenterological Association Medical Position Statement onConstipation (<i>self reading</i>)	
9. Optimal Preoperative Assessment of the Geriatric Surgical Patient: A Best Practices Guideline from the American College of Surgeons National Surgical Quality Improvement Program and the AmericanGeriatrics Society	
10. Vitamin D and Calcium Supplementation to PreventFractures in Adults	Closed book (text will not be allowed to be entered to exam room)
11. Diabetic foot infection by American family physician	
12. Preoperative fasting guideline	
13. Treatment of acute cholecystitis	
14. Management of diabetes in the perioperative period	
15. SOGC management of post operative nausea and vomiting	
16. Koda Kimble chapter, perioperative care	
17. An overview of anesthesia and anesthetic choices UpToDate	
18. Perioperative medication management	
19. Placement and management of indwelling catheters	
20. Management of hyperglycemia in type 2 diabetes	
21. Choice of therapy in essential hypertension	
22. Management of anticoagulation and glucocorticoides in the perioperative period	

Table 2: quizzes topics and dates

Quiz number	Quiz topic	Date and time
1.	<ul style="list-style-type: none"> Management of hyperglycemia and adjustment of insulin dosing 	Date : week , Sunday
2.	<ul style="list-style-type: none"> General Anesthesia from katzung 	Date : week , Sunday

Table 3.course content

Number	Year	Guideline	Author organization
1.	2011	Inpatient Management of Diabetic Foot Problems	National Institute for Health and Clinical Excellence (NICE)
2.	2006	Diabetic Foot Disorders: A Clinical Practice Guideline	American College of Foot and Ankle Surgeons
3.	2012	Guidelines For Diagnosis And Treatment Of Diabetic Foot Infection	Infectious Diseases Society of America
4.	2012	Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines	American college of chest physician
5.	2008	Guideline for the management of postoperative nausea and vomiting	SOGC clinical practice guideline
6.	2003	Consensus Guidelines for Managing Postoperative Nauseaand Vomiting	International Anesthesia Research Society
7.	2008	Antimicrobial Prophylaxis for Urologic Surgery	American Urological Association
8.	2012	Practice Guidelines for Acute Pain Management in thePerioperative Setting	American Society of Anesthesiologists Task Force on Acute Pain Management
9.	2012	Management of postoperative pain	UpToDate
10.	2006	Management of Common Opioid-Induced Adverse Effects	American family physician
11.	2011	Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective procedure	American Society of Anesthesiologists
12.	2012	Management of Hyperglycemia in Type 2 Diabetes-A Patient-Centered Approach: Position Statement	European Association for the Study of Diabetes,American Diabetes Association (ADA)
13.	2012	Oral Pharmacologic Treatment of Type 2 Diabetes Mellitus	American College of Physicians
14.	2011	Use of Intensive Insulin Therapy for the Management of Glycemic Control in Hospitalized Patients	American College of Physicians
15.	2004	Insulin administration	American diabetes association
16.	2009	Consensus Panel on Type 2 Diabetes Mellitus: An Algorithm for Glycemic Control	American Association of Clinical Endocrinologists,American College of Endocrinology

17.	2012	Guidelines for Routine Glucose Control in Hospital (Australia)	Australian Diabetes Society (ADS)
18.	2009	Blood Glucose Management During Adult Cardiac Surgery	Society of Thoracic Surgeons
19.	2012	Perioperative medication management	UpToDate
20.	2012	Overview of anesthesia and anesthetic choices	UpToDate
21.	2009	Safe use of propofol	American Society of Anesthesiologists
22.	2004	Standards for postanesthesia care	American Society of Anesthesiologists
23.	2009	Perioperative care	Applied therapeutics by Koda-Kimble General care: perioperative care
24.	2012	Placement and management of indwelling uretral stents	UpToDate
25.	2012	Estimation of cardiac risk prior to non-cardiac surgery	UpToDate
26.	2012	Management of cardiac risk for non-cardiac surgery	UpToDate
27.	2009	Evidence-Based Guidelines for Prevention of Perioperative Hypothermia	American College of Surgeons
28.	2012	Perioperative management of diabetes mellitus	UpToDate
29.	2012	Initial and re-operative thyroidectomy	UpToDate
30.	2012	Treatment of acute cholecystitis	UpToDate
31.	2008	Surgical site infection	National Collaborating Centre for Women's and Children's Health, NIH

Table 4: presentations topics

No	Topic	Date and time	Presenter
1.	Management of diabetes	Week 1 Tuesday	Dr. Eman & Dr. Saba
2.	Adjustment of insulin dosing	Week 1 Wednesday	Dr. Eman & Dr. Saba
3.	Skeletal muscle relaxants	Week 1 Thursday	Dr. Eman & Dr. Saba
4.	Diabetic foot problems and infection/ IDSA guidelines /American family physician guideline / American College of Foot and Ankle Surgeons	Week 2 Sunday	3 students
5.	General anesthesia from both Uptodate& applied therapeutics book , kodakimble , <i>perioperative care chapter</i>	Week 2 Monday	2 students
6.	Types of local anesthesia from Goodman and Gilman	Week 2 Tuesday	One student
7.	Perioperative medication management including management of diabetes , glucocorticoides and antithrombitics in the perioperative period	Week 2 Wednesday	3 students
8.	Opioids	Week 2 Thursday	One student
9.	Surgical site infection	Week 3 Sunday	One student
10.	guideline for the management of postoperative nausea and vomiting, Consensus Guidelines for Managing Postoperative Nauseaand Vomiting, Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective procedure	Week 3 Monday	One student
11.	Antithrombotic therapy and prevention of thrombosis, see also NICE guidelines and compare between the two guidelines Pharmacology of different antithrombotic agents	Week 3 Tuesday	2 students
12.	practice guidelines for acute pain management in the perioperative setting, management of postoperative pain, management of common opioid-induced adverse effects	Week 3 Wednesday	One student
13.	Placement and management of indwelling uretral stents, management of renal stones	Week 3 Thursday	One student
14.	Optimal Preoperative Assessment of the Geriatric Surgical Patient: A Best Practices Guideline from the American College of Surgeons National Surgical Quality Improvement Program and the American Geriatrics Society	Week 4 Sunday	One student
15.	<ul style="list-style-type: none"> • Management of osteoporosis in postmenopausal women: 2010 position statement of The North American Menopause Society • Osteoporosis: assessing the risk of fragility fracture • Vitamin D and Calcium Supplementation to PreventFractures in Adults 	Week 4 Monday	Two students
16.	Treatment of acute cholecystitis	Week 4 Tuesday	One student
17.	Estimation of cardiac risk prior to non-cardiac surgery	Week 4 Wednesday	Dr. Shayma and Dr Bayan

