



Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Anesthesia Technology Department

ANET361 Pharmacology For Anesthesia - JNQF Level: 7

First Semester 2023-2024

Course Catalog

3 Credit Hours. This course delves into the theory and principles surrounding the safe and proper usage, as well as storage, of anesthesia medications. It provides an in-depth examination of the pharmacokinetics and pharmacodynamics governing the drugs employed in anesthesia and analgesia. A significant focus lies on accurately identifying these medications by both their trade and generic names, understanding their fundamental pharmacological actions, and their clinical applications. Moreover, the course presents fundamental pharmacological principles, elucidating concepts such as drug mechanisms of action, receptors, metabolism, excretion, toxicity, and side effects commonly observed in healthcare practice. Additionally, it covers various aspects including routes of drug administration, dosage considerations, and factors influencing drug dosing. Inhalation anesthesia, premedication drugs, local anesthesia, opioids, and muscle relaxants are discussed comprehensively, including both traditional and modern approaches. Furthermore, the course includes a review of the nervous system to contextualize the pharmacological effects of these drugs.

Teaching Method: Blended

Text Book

Title	Morgan and Mikhail's Clinical Anesthesiology
Author(s)	Butterworth, John, et al.
Edition	6th Edition
Short Name	1
Other Information	

Instructor

Name	Dr. Eihab Khasawneh
Office Location	-
Office Hours	Sun : 10:30 - 12:00 Mon : 11:00 - 12:30 Tue : 10:30 - 12:00 Thu : 10:30 - 12:30
Email	eakhasawneh1@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Mon : 13:00 - 14:30 Room: NG76

Prerequisites		
Line Number	Course Name	Prerequisite Type
102550	MED255 Pharmacology	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Mechanisms of Action: In-depth exploration of the mechanisms of action of various classes of anesthetic agents, including how they interact with receptors in the central nervous system to produce desired effects such as unconsciousness, analgesia, and muscle relaxation.	From 1
Weeks 3, 4	Pharmacokinetics and Pharmacodynamics: Understanding the pharmacokinetic properties governing the absorption, distribution, metabolism, and elimination of anesthetic agents, as well as the pharmacodynamic interactions between drugs and their target receptors.	From 1
Weeks 5, 6	Inhalational Anesthetics: Review of the properties, delivery methods, and clinical considerations associated with volatile anesthetic agents, including their effects on cardiovascular, respiratory, and central nervous system function.	From 1
Weeks 7, 8	Intravenous Anesthetics: Examination of the pharmacological profiles, dosing regimens, and clinical applications of intravenous anesthetic agents, such as propofol, etomidate, ketamine, and barbiturates, for anesthesia induction and maintenance.	From 1
Weeks 9, 10	Neuromuscular Blocking Agents: In-depth analysis of the mechanism of action, pharmacokinetics, reversal agents, and clinical monitoring of neuromuscular blockers used for muscle relaxation during surgery, including depolarizing and non-depolarizing agents.	From 1
Weeks 11, 12, 13	Analgesics and Sedatives: Overview of analgesic medications used for perioperative pain management, including opioids, nonsteroidal anti-inflammatory drugs (NSAIDs), and adjuvant agents. Discussion of sedative medications for preoperative anxiety reduction and procedural sedation.	From 1
Weeks 14, 15	Adjunct Medications: Exploration of adjunct medications commonly used in anesthesia practice, including antiemetics, anticholinergics, benzodiazepines, alpha-2 agonists, and local anesthetics, with emphasis on their pharmacological properties and perioperative applications.	From 1
Week 16	Final Exam	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Develop a comprehensive understanding of the theory and principles governing the safe and appropriate use, as well as storage, of anesthesia medications. [1PLO 2] [1L7K1]	25%	First exam

Understand fundamental pharmacological concepts, including drug mechanisms of action, receptors, metabolism, excretion, toxicity, and common side effects encountered in healthcare practice. [1PLO 1] [1L7S1]	25%	Second exam
Explore various aspects of drug administration routes, dosage considerations, and factors influencing drug dosing. [1PLO 1] [1L7S2]	25%	Final exam
Familiarize oneself with a comprehensive range of anesthesia medications, including inhalation anesthesia, premedication drugs, local anesthesia, opioids, and muscle relaxants, covering both traditional and modern approaches. [1PLO 1] [1L7S3]	25%	Final exam

Relationship to Program Student Outcomes (Out of 100%)					
PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
75	25				

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S2	L7S3
25	25	25	25

Evaluation	
Assessment Tool	Weight
First exam	25%
Second exam	25%
Final exam	50%

Policy

Code of Conduct and Academic Integrity Guidelines	<p>Statement on Professionalism: Professional behavior is expected of students at all times. Attitude and professional behavior are a minimum criterion for passing this class. Examples of unprofessional behavior include but are not limited to: missing classes, tardiness, lack of attention for a speaker, talking to others during lecture, leaving a lecture prior to its completion without prior authorization of the instructor, working on other class material during class, and sleeping during class.</p> <p>Cheating: University regulations will be applied on cases of cheating and/or plagiarism</p> <p>Cell phone: The use of cellular phone is prohibited in class rooms and during exams. The cellular phone must be switched off in class rooms and during exams.</p> <p>Attendance: No points will be count for points attendance of this class, however attending the lectures will greatly enhance your grade. The student is responsible for any information discussed in lecture sessions. It is imperative to attend all classes!</p> <p>Absences: University regulations will be applied. Students are not allowed to be absent for more than 20% of lectures for any reason or excuse. If a student exceeds the absence limit, he or she will not be allowed to sit for future course exams. (Please review university regulation for more details)</p> <p>Make-up Exam: is entitled for students who miss the exam with accepted legal or medical excuse endorsed by the instructor within 24 hours after the scheduled exam (Please review university regulation for more details)</p> <p>Feedback: Concerns, complaints, questions, and/or feedback are appreciated and will be important for the instructor. You can contact your instructor using the e-mail or during office hours.</p>
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