

وصف مقررات المرحلة الرابعة

قسم تقنيات التخدير

العام الدراسي 2025-2026

الكورس الأول

اللغة الإنجليزية

1. Course Name: Advance Anesthesia (1)	
2. Course Code: MTAN4101 (1)	
3. Semester / Year: Semester (1) / 4th level/ 2025-2026	
4. Description Preparation Date: 11/10/2025	
5. Available Attendance Forms: Full attendance in university halls and labs.	
6. Number of Credit Hours (2 th +5 pract) / Number of Units (4)	
7. Course administrator's name	
Name: Lecture Dr. Majid Fakhir Mutar	
Email: majid.mutar@alayen.edu.iq	
8. Course Objectives	
General Objective: At the end of this course, students should be able to apply advanced anesthesia principles in the safe management of patients with complex medical conditions and emergencies, integrating theoretical knowledge, clinical judgment, and technical skills to ensure optimal peri-operative care.	Specific Objective: By the end of the course, students will be able to: 1- Perform advanced airway management—including endotracheal intubation, fiber-optic, and video-laryngoscopy techniques—and manage difficult or failed airways during emergencies. 2- Design and implement anesthetic plans for patients with systemic diseases (cardiac, respiratory, hematologic, endocrine) undergoing elective and emergency surgery. 3- Recognize and manage peri-operative complications such as arrhythmias, aspiration, pulmonary embolism, and anesthetic-related emergencies using evidence-based guidelines. 4- Demonstrate decision-making in critical scenarios, such as resuscitation,

			rapid sequence induction (RSI), and anesthesia outside the operating room. 5- Collaborate effectively with surgical and critical-care teams to provide integrated peri-operative management for high-risk and trauma patients.		
9. Teaching and Learning Strategies					
Strategy	1- Simulation-based learning: Using anesthetic machine simulators and virtual clinical monitoring to train students in realistic clinical situations in a safe environment. 2- Problem-based learning: Presenting various clinical scenarios for students to analyze, enhancing critical thinking and decision-making. 3- Live clinical education: Engaging students in practical training in virtual anesthesia and operation scenarios.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1+2	14	Emergency surgical scenarios RSI.	anesthesia for emergency operation	Theoretical and practical lecture using PowerPoint	General questions and discussion, theoretical tests
3+4	14	Difficult Airway and its management	Endotracheal intubation-difficult intubation + difficult intubation management guidelines.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
5	7	Difficult Airway and its management. failed intubation in trauma.	Emergency Airway Management of trauma patient / failed intubation Drill	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
6	7	Minimize myocardial ischemia	Anesthetic Management of	Theoretical and practical lecture	Pop-up exam +

			patient with ischemic heart disease undergoing non-cardiac surgery	using PowerPoint	live question + attendance + midterm and final exam
7	7	Manage intraoperative hemodynamic instability specific to valve dysfunction	Anesthetic Management of patient with valvular heart disease	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
8	7	Differentiate types of heart failure (systolic vs. diastolic) cardiomyopathies.	Anesthetic Management of patient with heart failure/ Anesthetic Management of patient cardiomyopathy	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
9	7	Optimize bronchodilation and airway control preoperatively. Minimize bronchospasm trigger during induction/maintenance	Anesthetic Management of patient with Asthma, COPD and Restrictive Pulmonary Disease	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
10	7	Recognize and manage acute respiratory failure due to aspiration or PE. Apply diagnostic and therapeutic strategies for massive vs. sub massive PE.	Perioperative Management of patient with Aspiration Pneumonia/ Pulmonary Embolism	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
11+12	14	Manage patients with anemia, coagulopathies, or hematologic malignancies.	Hematological Disease and Anesthesia	Theoretical and practical lecture	Pop-up exam +

		Understand transfusion triggers and risks (e.g., TRALI, TACO).		using PowerPoint	live question + attendance + midterm and final exam
13	7	Provide safe anesthesia for ECT, balancing seizure threshold and hemodynamic stability. Manage autonomic responses (hypertension, tachycardia) post-stimulus.	Electro-compulsive therapy (ECT) and anaesthesia	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
14	7	Anticipate challenges in thyroid surgery (e.g., airway compression, recurrent laryngeal nerve injury). Manage potential for thyroid storm or hypocalcemia post-op. For laparotomy: optimize fluid status, anticipate blood loss, and manage pain.	Anesthetic Management for Thyroidectomy/ Explorative Laparotomy	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
15	7	Maintain perioperative glycemic control to reduce infection and healing complications. Adjust insulin/oral agents preoperatively. Recognize and treat hypo-/hyperglycemia and diabetic emergencies (e.g., DKA).	Anesthetic & Diabetes mellitus	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam

11. Course Evaluation

The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.

1- 40 points for effort (daily exam + attendance + participation + reports).

2- 60 points for final exam (35 points for theory + 25 points for practical).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Non
Main references (sources)	1. Clinical anesthesiology ----- Morgan and Mikhail----6th edition 2. Anesthesia for medical students----Oster and Bryce-- Smith 3. Clinical anesthesiology----4th edition---
Recommended books and references (scientific journals, reports...)	Clinical anesthesiology--4th edition-
Electronic References, Websites	University educational platform

1. Course Title:
ICU 2
2. Course Code:
MTAN4103
3. Semester/Year:
First Semester 2025–2026
4. Date this description was created:
11/10/2025
5. Available Forms of Attendance:
Fully in-person within the university halls
6. Number of Academic Hours:
(90h) / Number of Units: (4)
7. Course administrator name (if more than one name mentioned)
Name: Dr. Murtada Anan Al-Malki Email: murtadha.adnan91@alayer.edu.iq
8. Course Objectives
<u>General Objective:</u> The teaching of the course aims to provide the student with knowledge of the basics of diseases in intensive care units and the provision of medical care. <u>Special Objective:</u> <u>At the end of the year, the student will be able to:</u> 1- Gain an idea of all the devices used in intensive care units. 2- The student knows how to deal with patients in intensive care and provide them with health care. 3- Improve their capabilities with critical conditions for patients in intensive care . 4- understand and improve their work in the rest of the care and emergency lobbies .
9. Teaching and Learning Strategies

1. Simulation-based education: The use of anesthesia simulators and virtual intensive care rooms to train students in real-world clinical situations in a safe environment. 2. Problem-Based Learning: Present complex clinical scenarios for students to analyze, which promotes critical thinking and decision-making. 3. Face-to-face clinical education: Engaging students in practical training in intensive care laboratories and virtual halls.	Strategy
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10. Course Structure					
Evaluation Method	Learning method	Unit Name or Subject	Required Learning Outcomes	Hours	Week
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	pulmonary embolisms and pulmonary edema	Diagnose and treat pulmonary embolisms and pulmonary edema, including oxygen management and pharmacological therapy.	4 th + 8 pract	2+1
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	acute renal failure and CRRT	Assess the causes of acute renal failure, identify the indications for CRRT (Continuous Renal Replacement Therapy), and manage fluids and electrolytes.	4 th + 8 pract	3+ 4
Surprise + Exam Direct + Question + Attendance Semester	Theoretical Lecture Using a Program PowerPoint	sepsis and septic shock	Identify early signs of sepsis and septic shock, implement immediate resuscitation	4 th + 8 pract	6+5

and Final Exam			protocols (Sepsis bundles), and manage arterial pressure using vasopressors.		
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	multiple trauma	Apply ATLS protocols for the assessment and treatment of multiple traumas (chest injury, spinal cord injury), and manage the Massive Transfusion Protocol for actively bleeding patients.	4 th + 8 pract	8+7
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	environment injuries (submersion, burns, thermal injury and envenomation)	Determine immediate actions for burns and drowning, manage burn shock , and handle cases of poisoning and thermal injuries.	4 th + 8 pract	10+9
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	infection and antimicrobial therapy	Select appropriate antimicrobial therapy based on the source of infection and culture results, and implement Antibiotic Stewardship programs .	4 th + 8 pract	12+11
Surprise + Exam Direct + Question	Theoretical Lecture Using a Program	CU care after cardiac surgery	Monitor for common complications	2 th + 4 pract	13

+ Attendance Semester and Final Exam	PowerPoint		after cardiac surgery (e.g., atrial fibrillation, low cardiac output), and manage mechanical ventilation and weaning.		
Surprise + Exam Direct + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	transport of critically ill patients	Prepare the patient for transfer, continuously monitor vital signs, and manage potential risks during internal or external transport.	2 th + 4 pract	14
Surprise Exam + Direct Question + Attendance + Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Nutrition in ICU	Assess the nutritional needs of ICU patients, determine appropriate feeding routes (enteral or parenteral), and prevent nutrition-related complications.	2 th + 4 pract	15

11. Course Evaluation

The score is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports... etc

1- 60 Marks (Daily Exam + Attendance + Participation + Reports)

2- 40 marks of the final exam (theoretical 35 marks + practical 25 marks)

12. Learning and Teaching Resources

Ministerial portfolio curriculum		Required Textbooks (Methodology, if any)	
1. paul marino 2. Icu oxford handbook		Main Reference(s)	

British Journal of icu	Recommended books and references (...scientific journals, reports)
American Society of Anesthesiologists	References, Websites

Advanced Anesthesia Devices	
1. Course Code:	
MTAN4102	
2. Semester / Year:	
Year	
3. Description Preparation Date:	
9/10/2025	
4. Available Attendance Forms:	
Full-time and official attendance hours	
5. Number of Credit Hours (Total) / Number of Units (Total)	
Lecture: 2 , Practical: 4 , Total: 6(2+4) * 4 units	
6. Course administrator's name (mention all, if more than one name)	
Name: Msc . Sarmad Abad Alkatheam Abdulla	
Email: sarmads006@gmail.com	
7. Course Objectives	
By the end of the academic year, the student should be able to: 1. Use all advanced anesthesia devices utilized in clinical anesthesia. 2. Maintain and perform regular servicing of anesthesia equipment. 3. Identify and understand all components and technologies of anesthesia machines.	Specific Objectives: 1. Operate various types of anesthesia machines. 2. Maintain and service all anesthesia devices. 3. Identify and understand the components and technologies of medical devices used in anesthesia. 4. Explain the components of the anesthesia machine (gas mixing systems, vaporizers, breathing systems, safety and pressure valves). 5. Describe the function of the ventilator used within the anesthesia workstation. 6. Explain gas delivery mechanisms and monitoring of flow and pressure.

			7. Record and monitor vital signs during operations using monitoring devices.		
8. Teaching and Learning Strategies					
Strategy	Blended learning Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (group dissuasion, presentation) Discussion Problem solving				
9. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 &2	4 theoretical + 8 practical	Identify the importance of physiological gas monitoring during anesthesia. Explain how to measure inspired oxygen and carbon dioxide concentrations. Distinguish between different types of volatile anesthetic agents.	Physiological monitoring: gases, inspired O2 concentration, CO2 and volatile anaesthetic agent	Lecture (PowerPoint)	Midterm exams Final exams evaluations

3&4	4 theoretical + 8 practical	Describe methods for measuring respiratory volumes and lung function. Explain how to assess blood gases such as oxygen and carbon dioxide. Operate respiratory measurement equipment accurately in clinical settings.	Measurement of respiratory volume, measurement of gases in blood	Lecture (PowerPoint)	Midterm exams Final exams evaluations
5&6	4 theoretical + 8 practical	Explain the role of automatic record-keeping systems in clinical environments	Automatic record keeping, advantage and equipments for automatic record	Lecture (PowerPoint)	Midterm exams Final exams evaluations
7&8	4 theoretical + 8 practical	Identify sources of atmospheric pollution in medical settings. Explain the function and types of scavenging systems used in operating rooms	Atmospheric pollution, measurement and control of pollution, scavenging system	Lecture (PowerPoint)	Midterm exams Final exams evaluations
9&10	4 theoretical + 8 practical	Identify the components and types of medical suction apparatus. Select appropriate suction equipment based on clinical needs.	Medical suction apparatus, component, choice, standard and testing	Lecture (PowerPoint)	Midterm exams Final exams evaluations

		Apply standards and testing procedures for safe equipment use.			
11&12	4 theoretical + 8 practical	Differentiate between decontamination, disinfection, and sterilization processes	Cleaning and sterilization: decontamination, disinfection and sterilization	Lecture (PowerPoint)	Midterm exams Final exams evaluations
13&14	4 theoretical + 8 practical	Explain the importance of using checklists in medical procedures. Participate in the creation and application of checklists for safety and quality	Check list and treatment of anaesthetic machine	Lecture (PowerPoint)	Midterm exams Final exams evaluations
15&16	4 theoretical + 8 practical	Identify common electrical hazards in medical and clinical environments. Explain the causes and types of accidents related to the main electrical supply.	Electrical hazard and their prevention, and accident associated with main electrical supply	Lecture (PowerPoint)	Midterm exams Final exams evaluations

10. Course Evaluation The total mark (100%) is distributed as follows: – Semester Work (40%): attendance, participation, quizzes, oral and written tests, practical performance. – 25 practical + 10 theoretical + 5 participation – Final Exam (60%): 35 theoretical + 25 practical					
11. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Non		
Main references (sources)			Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER		
Recommended books and references (scientific journals, reports...)			1. Community-based facilities (include for example, guest Lectures , internship , field studies)		
Electronic References, Websites			Medical website		

1. Course Name: Advance Medicine (1)	
2. Course Code: MTAN 4104	
3. Semester / Year: semester 1 2025-2026	
4. Description Preparation Date: 11/10/2025	
5. Available Attendance Forms: Full-time and official attendance hours	
6. Number of Credit Hours (90) / Number of Units (3)	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lec. Douaa Ameer Hashim	
Email: alshwailyduaa112@gmail.com	
8. Course Objectives	
Course Objectives Introduce the student to the different organs of the body and the effects of injuries and diseases on them from an anatomical and physiological perspective, including their complications. The student will also learn about the signs and symptoms of these conditions and the basic frameworks for managing them. Additionally, students will be introduced to cases that require medical intervention and the nature of such interventions (particularly those they may encounter during surgeries and in intensive care, with emphasis on emergency situations). At this stage, Emergency Medicine and War Medicine are studied in detail, along with the continuation of studying other body systems that were initiated in the third stage. Students will also be introduced to the most critical and life-threatening conditions that they may face in their practice.	
9. Teaching and Learning Strategies	
Strategy	

	1. Simulation-Based Learning: Utilizing various diagnostic techniques and simulation labs to train students on realistic clinical scenarios in a safe environment. 2. Problem-Based Learning: Presenting complex clinical cases for students to analyze, enhancing critical thinking and decision-making skills. 3. Direct Clinical Education: Engaging students in practical training in both real and virtual clinical settings.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1,2	12	Understanding the process of shock: types, pathophysiology, clinical signs, management, and prevention	Shock (types, patho physiology, management)	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
3,4	12	The immune system: functions and clinical immunological diseases	Organization and function and immune system	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
5,6	12	Genetics and chromosomes, including types of inheritance and genetic disorders Principles of critical care medicine and understanding general medical principles	Genetics and disease Type & genetics disease	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations

7,8	12	Principles of critical care medicine and understanding general medical principles	Principle & critical care medicine, Principle of general medicine,	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
9,10	12	Autoimmune diseases	Autoimmune disease	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
11,12	12	Other clinical organic diseases in internal medicine	Ophthalmic disease	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
13	6	Hematologic disorders their types, including heavy metal poisoning	Disease of blood, Heavy metal poisoning	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
14	6	Disorders and complications of the nerves and muscles, spinal cord disorders, and infections of the nervous system	Disease of the nerve and muscle Disorder of spin and spinal cord ,Infection of nervous system	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
15	6	Endocrine glands in the body, including the pituitary and adrenal glands	Endocrinology: Pituitary gland Thyroid gland	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc	
Assessment and Grading (Total: 100 Marks)	
• Continuous Assessment (60 marks): • Daily preparation • Quizzes and monthly exams • Written assignments • Reports • Attendance and participation • Final Examination (40 marks): • Written/Theoretical exam: 35 marks • Practical exam: 25 marks	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Non
Main references (sources)	Oxford hand book of clinical medicine, sixth edition, Longmore, Murray,2004 Harrisons principle of internal medicine 2th edition 2018
Recommended books and references (scientific journals, reports...)	Davidson’s Principles and Practice of Medicine
Electronic References, Websites	University educational platform

1. Course Name: Pain Medicine	
2. Course Code: MTAN4105	
3. Semester / Year: Semester (1) / 4th level/ 2025-2026	
4. Description Preparation Date: 11/10/2025	
5. Available Attendance Forms: Full attendance in university halls and labs.	
6. Number of Credit Hours (2 th + 3 pract) / Number of Units (3)	
7. Course administrator's name	
Name: Lecture Dr. Majid Fakhir Mutar	
Email: majid.mutar@alayer.edu.iq	
8. Course Objectives	
General Objective: By the end of this course, students should be able to understand the physiology, assessment, multidisciplinary management of acute and chronic pain and apply pharmacological and interventional techniques to relieve patient suffering safely and ethically..	Specific Objective: At the completion of this course, students will be able to: 1-Classify types of pain (acute, chronic, neuropathic, visceral, psychogenic) and explain underlying neurophysiological mechanisms. 2-Assess pain comprehensively, performing detailed pain histories, physical examinations, and diagnostic evaluations appropriate to the clinical presentation. 3-Select and administer suitable therapies, including pharmacological agents (opioids, adjuvants, local anesthetics), physiotherapy, psychological support, and interventional procedures (nerve blocks, radio-frequency ablation, spinal cord stimulation, intrathecal pumps).

			4-Recognize complications of pain-management procedures and outline prevention and management strategies. 5-Promote holistic pain-care principles emphasizing patient education, ethical considerations, and multidisciplinary teamwork in managing chronic pain conditions.		
9. Teaching and Learning Strategies					
Strategy	1- Simulation-based learning: Using anesthetic machine simulators and virtual clinical monitoring to train students in realistic clinical situations in a safe environment. 2- Problem-based learning: Presenting various clinical scenarios for students to analyze, enhancing critical thinking and decision-making. 3- Live clinical education: Engaging students in practical training in virtual anesthesia operation scenarios.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
+2	10	Understand the anatomical pathways and pathophysiological mechanisms underlying acute and chronic pain.	Anatomy of the pain processing system. Pathophysiology of pain	Theoretical and practical lecture using PowerPoint	General questions and discussion, theoretical tests
2	5	Perform a comprehensive pain-focused history and physical exam to accurately diagnose pain conditions.	History and physical examination of pain patient Diagnosis of pain.	Theoretical and practical lecture using PowerPoint	General questions and discussion, theoretical tests
3	5	Select and safely use appropriate instruments and anesthetic techniques for interventional pain procedures.	Pain clinic instruments .Anesthesia for pain management procedures.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam

4	5	Apply evidence-based strategies for acute pain control and ensure radiation safety during fluoroscopy-guided interventions	Acute pain managements survive. Radiation safety in pain procedures.	Theoretical and practical lecture using PowerPoint	General questions and discussion, theoretical tests
5	5	Utilize radiofrequency ablation and integrate physiotherapy as effective modalities in chronic pain treatment..	Radio-frequency in pain management physiotherapy for pain management.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
6	5	Evaluate indications and apply alternative therapies like prolotherapy and acupuncture in multimodal pain management.	prolotherapy for pain management. Acupuncture therapy for pain management.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
7	5	Incorporate psychological approaches in chronic pain care and manage primary headache disorders effectively..	Psychotherapy for pain management. Head ache.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
8	5	Diagnose common causes of neck pain and perform appropriate interventional procedures (e.g., nerve blocks).	Neck pain. managements procedures for neck pain.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
9	5	Differentiate musculoskeletal, neuropathic, and visceral causes of chest pain and apply targeted interventions..	Pain managements procedures for neck pain. Chest pain.	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
10	5	Design and implement interventional strategies for managing thoracic and oncologic pain syndromes.	Pain managements procedures for chest pain, CA pain	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
11	5	Assess and manage mechanical	Back pain .pain management	Theoretical and	General

		and radicular low back pain using pharmacologic and procedural techniques.	techniques for back pain	practical lecture using PowerPoint	questions and discussion, theoretical tests
12	5	Identify sources of pelvic/sacral pain and apply nerve blocks or neuromodulator for relief.	pelvic pain and sacrum pain management techniques for pelvic and sacral pain	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
13	5	Recognize and manage procedural complications and select appropriate analgesic regimens based on pain type and patient factors.	complications of pain managements procedures pharmacology for pain managements	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
14	5	Anticipate challenges Diagnose and manage neuropathic conditions like phantom limb pain and work-related spinal disorders..	phantom pain, occupational back pain	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
15	5	Understand indications, mechanisms, and clinical use of advanced neuromodulator and intrathecal drug delivery systems.	Advanced pain management techniques spinal cord stimulator techniques in a pain management, intrathecal pumps techniques in pain .managements	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam

11. Course Evaluation

The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.

1- 40 points for effort (daily exam + attendance + participation + reports).

2- 60 points for final exam (35 points for theory + 25 points for practical).

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Non
Main references (sources)	1.Oxford pain medicine 2. Pain management book 3. Chronic pain management
Recommended books and references (scientific journals, reports...)	1.Oxford pain medicine
Electronic References, Websites	University educational platform

الكورس الثاني-المرحلة الرابعة
قسم تقنيات التخدير-كلية التقنيات الصحية والطبية
وصف المقررات الدراسية باللغة الإنجليزية
العام الدراسي 2026/2025

1. Course Name:	
Advance Anesthesia 2	
2. Course Code:	
MTAN4201	
3. Semester / Year:	
Semester (2) / 4th level/ 2025-2026	
4. Description Preparation Date:	
02/02/2026	
5. Available Attendance Forms:	
Full attendance in university halls and labs.	
6. Number of Credit Hours	
(7 hours – 2 theoretical + 5 practical) / Number of Units (4)	
7. Course administrator's name	
Name: Dr. Murtada Adnan Al-Malki	
Email: murtadha.adnan91@alayen.edu.iq	
8. Course Objectives	
General Objective: To competently and safely deliver advanced anesthetic care for complex surgical cases and perioperative emergencies through sound clinical knowledge, critical thinking, and evidence-based practice	Specific Objective: By the end of the semester, the student will be able to: 1. To develop advanced knowledge of anesthetic management for complex surgical procedures across neurosurgical, cardiothoracic, obstetric, orthopedic, pediatric, and general surgical specialties. 2. To enhance clinical decision-making skills in assessing perioperative risk, maintaining physiological stability, and managing intraoperative and postoperative complications. 3. To strengthen competency in emergency and critical care anesthesia, including the management of shock, massive

	hemorrhage, hypertensive crises, and anaphylactic reactions. 4. To promote safe, evidence-based anesthesia practice through appropriate patient evaluation, monitoring, pharmacologic selection, and multidisciplinary collaboration.
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9. Teaching and Learning Strategies

Strategy	1-Using high-fidelity mannequins and virtual emergency scenarios to practice airway management, resuscitation, and trauma care in a controlled, risk-free environment. 2-Case-based interactive learning: Presenting real clinical cases (e.g., sepsis, dysrhythmias, toxicology) for analysis and discussion to develop diagnostic reasoning and emergency decision-making skills. 3-Supervised clinical immersion: Involving student's in supervised emergency department rotations and hands-on skills labs to apply theoretical knowledge in real or simulated clinical settings.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theory +8 practical	Provide safe anesthetic management for neurosurgical patients while maintaining optimal cerebral perfusion and	Anesthetic Management for Craniotomy for acute head injury /	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam

		controlling intracranial pressure	Intracranial Tumor Debulking		
3	2 theory +4 practical	Manage anesthesia for thoracic procedures, including one-lung ventilation and prevention of hypoxemia.	Anesthetic Management for bronchoscopy/ Pneumonectomy	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
4	2 theory +4 practical	Manage hemodynamic stability and blood loss during major vascular surgeries.	Anesthetic Management for Aortic Aneurysm/ Peripheral Vascular Procedures	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
5	2 theory +4 practical	Assess and safely manage hypertensive patients during the perioperative period	Hypertension and Anesthesia	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
6	2 theory +4 practical	Provide safe anesthetic care for patients with pre-eclampsia and manage its complications.	Pre-eclampsia / eclampsia & anesthesia.	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
7	4 theory +8 practical	resuscitate and anesthetize patients presenting with different types of shock.	Anesthesia management for shocked patient.	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
8	2 theory +4 practical	Manage anesthesia in obstetric emergencies	Anesthetic Management for Abruptio placenta/	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam

		associated with hemorrhage.	placenta Previa /dilatation & curett		
9-10	2 theory +4 practical	Modify anesthetic techniques to ensure maternal and fetal safety during non-obstetric surgery.	Anesthesia for the Pregnant Patient Undergoing a Non-Obstetric Procedure/Anesthetic Management for cervical cerclage	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
11	2 theory +4 practical	Provide safe anesthesia with appropriate positioning and blood loss management in orthopedic procedures.	Anesthetic Management for posterior spinal reconstructive surgery / Arthroscopy	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
12	2 theory +4 practical	Apply regional or general anesthesia techniques and manage perioperative complications in joint replacement surgery.	Anesthetic Management for total hip replacement / Total Knee Replacement	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
13	2 theory +4 practical	Manage anesthesia in pediatric patient with attention to fluid, electrolyte, and airway considerations.	Anesthetic Management for pediatric pyloric stenosis/ Circumcision	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
14	2 theory +4 practical	Recognize and immediately manage	Allergic reaction to anesthesia.	Theoretical and practical lecture using PowerPoint	Pop-up exam

		intraoperative anaphylactic reactions.			live question attendance + midterm and final exam
15	2 theory +4 practical	Provide safe Anesthetic Management and control of fluid balance, blood loss and postoperative complication	Sleeve gastrectomy and anesthesia	Theoretical and practical lecture using PowerPoint	Pop-up exam live question attendance + midterm and final exam

11.Course Evaluation

The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.

1- 40 points for effort (daily exam + attendance + participation + reports).

2- 60 points for final exam (35 points for theory + 25 points for practical).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Non
Main references (sources)	1.Clinical anesthesiology -----Morgan and Mikhail----6th edition 2. Anesthesia for medical students----Oster and Bryce--Smith 3. Clinical anesthesiology----4th edition---
Recommended books and references (scientific journals, reports...)	Internet sites (Google and YouTube) and means of communication in the field
Electronic References, Websites	University educational platform

1. Course Name:	
Advanced Anesthetic Equipment Technologies 2	
2. Course Code:	
MTAN4202	
3. Semester / Year:	
semester	
4. Description Preparation Date:	
3/2/2026	
5. Available Attendance Forms:	
Full-time and official attendance hours	
6. Number of Credit Hours (Total) / Number of Units (Total)	
theoretical: 2 , Practical: 4 , Total: 6(2+4) * 4 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Msc . Sarmad Abad Alkatheam Abdulla	
Email: sarmads006@gmail.com	
8. Course Objectives	
By the end of the academic year, the student should be able to: 1. Use all advanced anesthesia devices utilized in clinical anesthesia. 2. Maintain and perform regular servicing of anesthesia equipment. 3. Identify and understand all components and technologies of anesthesia machines.	<u>Specific Objectives:</u> 1. Operate various types of anesthesia machines. 2. Maintain and service all anesthesia devices. 3. Identify and understand the components technologies of medical devices used in anesthesia. 4. Explain the components of the anesthesia machine (gas mixing systems, vaporizers, breathing systems, safety and pressure valves). 5. Describe the function of the ventilator used within the anesthesia workstation. 6. Explain gas delivery mechanisms and monitoring of flow and pressure. 7. Record and monitor vital signs during operations using monitoring devices.

9. Teaching and Learning Strategies					
Strategy	Blended learning Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (group discussion, presentation) Discussion Problem solving				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 &2	12 (4 theoretical + 8 practical)	Identify anesthesia machine components and their functions	Machine framework, compressed gas attachment, back bar, safety features of anesthesia machine, common gas outlet, auxiliary gas sockets	Interactive lectures (face-to-face & online)	Monthly & short exams, scientific discussions
3&4	12 (4 theoretical + 8 practical)	Understand the function of the common gas outlet	Common gas outlet, auxiliary gas sockets	Interactive lectures (face-to-face & online)	Monthly & short exams, scientific discussions
5&6	12 (4	Understand the role of electronic systems in	Electronic control breathing system	Interactive	Monthly &

	theoretical + 8 practical)	modern anesthesia equipment		lectures (face-to-face & online)	short exams, scientific discussions
7&8	12 (4 theoretical + 8 practical)	Understand closed and open breathing systems and soda lime function	Humphrey breathing system, circle breathing system, soda lime	Interactive lectures (face-to-face & online)	Monthly & short exams, scientific discussions
9&10	12 (4 theoretical + 8 practical)	Understand basic principles of advanced ventilators	Advanced ventilator types: principles and examples	Interactive lectures (face-to-face & online)	Monthly & short exams, scientific discussions
11&12	12 (4 theoretical + 8 practical)	Differentiate between anesthesia ventilators and ICU ventilators	Venturi injector device and ventilator	Interactive lectures (face-to-face & online)	Monthly & short exams, scientific discussions
13&14	12 (4 theoretical + 8 practical)	Apply pre-use checklist for anesthesia equipment	Checklist, troubleshooting, maintenance anesthesia devices	Interactive Lectures (face-to-face & online)	Monthly & short exams, scientific discussions
15	6 (2 theoretical + 4 practical)	Understand closed and open breathing systems and soda lime function	Humphrey breathing system, circle breathing system, soda lime	Interactive Lectures (face-to-face & online)	Monthly & short exams, scientific discussions
11. Course Evaluation					

The total mark (100%) is distributed as follows: - Semester Work (40%): attendance, participation, quizzes, oral and written tests, practical performance. - 25 practical + 10 theoretical + 5 participation - Final Exam (60%): 35 theoretical + 25 practical	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Non
Main references (sources)	Required reading: • CORE TEXTS • COURSE MATERIALS • OTHER
Recommended books and references (scientific journals, reports...)	1. Community-based facilities (include for example, guest Lectures , internship , field studies)
Electronic References, Websites	Medical website

1. Course Title:	
Intensive Care Technologies 2	
2. Course Code:	
MTAN4203	
3. Semester/Year:	
Second Semester 2025-2026	
4. Date this description was prepared:	
11/2/2026	
5. Available Forms of Attendance:	
Fully in-person within the university halls	
6. Number of Academic Hours:	
(6) 2 theoretical + 4 practical / Number of Units: (4)	
7. Course administrator name (if more than one name mentioned)	
Name: Dr. Tuqa Jawad Email: teejawad93@gmail.com	
8. Course Objectives	
<u>General Objective:</u> The teaching of the course aims to provide the student with knowledge of the basics of diseases in intensive care units and the provision of medical care. <u>Special Objective:</u> At the end of the year, the student will be able to: 5- Gain an idea of all the devices used in intensive care units. 6- Know how to deal with patients in intensive care and provide them with health care. 7- Improve their capabilities with critical conditions for patients in intensive care . 8- understand and improve their work in the rest of the care and emergency lobbies .	
9. Teaching and Learning Strategies	
1. Simulation-based education: The use of anesthesia simulators and virtual intensive care rooms to train students in real-world clinical situations in a safe environment. 2. Problem-Based Learning: Present complex clinical scenarios for students to analyze, which promotes critical thinking and decision-making.	Strategy

3. Face-to-face clinical education: Engaging students in practical training in intensive care laboratories and virtual halls.					
10. Course Structure					
Evaluation Method	Learning method	Unit Name or Subject	Required Learning Outcomes	Hours	The week
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Anesthetic Management for Craniotomy in Acute Head Injury / Intracranial Tumor Debulking	Optimize ICP/CPP and brain relaxation using Monro-Kellie principles to prevent secondary brain injury. Ensure stable induction and smooth emergence to facilitate immediate post-operative neurological assessment.	12	2+1
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Anesthetic management for bronchoscopy /Pneumonectomy Anesthetic Management for Aortic Aneurysm / Peripheral Vascular Procedures	Manage shared airways and one-lung ventilation to optimize gas exchange while preventing post-pneumonectomy pulmonary edema Maintain strict hemodynamic stability and organ protection during cross-clamping while managing cardiovascular risks and potential major blood loss..	12	3+ 4
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Hypertension and Anesthesia	Minimize perioperative blood pressure fluctuations to protect end-organs while maintaining a Mean Arterial Pressure (MAP)	12	6+5

		Pre-eclampsia / Eclampsia & Anesthesia	within 20% of baselineControl blood pressure and prevent seizures while managing the difficult airway and ensuring safe neuraxial anesthesia or rapid sequence induction..		
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Anesthesia Management for the Shocked Patient Anesthetic Management of Placenta Previa / Abruptio Placentae/ Dilatation and Curettage	Prioritize rapid volume resuscitation and titrate reduced-dose anesthetics to maintain coronary perfusion while avoiding further cardiovascular collapse and organ failure..	12	8+7
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	NEUROMUSCULAR WEAKNESS SYNDROMES	Manage respiratory function and prioritize non-depolarizing muscle relaxants while avoiding Succinylcholine to prevent life-threatening hyperkalemia and prolonged muscle paralysis.manage burn shock, and handle cases of poisoning and thermal injuries.	12	10+9
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	ACUTE STROKE	Maintain cerebral perfusion through strict blood pressure control and rapid airway protection to	12	12+11

		BRAIN DEATH	minimize infarct size and prevent secondary brain injury.programs.		
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	VENTILATOR-ASSOCIATED PNEUMONI	Implement strict bundle care and lung-protective ventilation to prevent bacterial colonization and minimize mortality in intubated patients.onitc for common complications after cardiac surgery (e.g., atrial fibrillation, low cardiac output), and manage mechanical ventilation and weaning	6	13
Surprise Exam Direct + + Question + Attendance Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	transport of critically ill patients Diabetic Ketoacidosis (DKA)	Prepare the patient for transfer, continuously monitor vital signs, and manage potential risks during internal or external transport.	6	14
Surprise Exam + Direct Question + Attendance + Semester and Final Exam	Theoretical Lecture Using a Program PowerPoint	Toxicological Emergencies in Critical Care	Toxicological Emergencies in Critical Care	6	15
11. Course Evaluation					
The score is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports... etc.					
1- 60 Marks (Daily Exam + Attendance + Participation + Reports)					

2- 40 marks of the final exam (theoretical 35 marks + practical 25 marks)			
12. Learning and Teaching Resources			
Ministerial portfolio curriculum		Required Textbooks (Methodology, if any)	
1.paul marino		Main Reference(s)	
2. Icu oxford handbook			
British Journal of icu		Recommended books and references (...scientific journals, reports)	
American Society of Anesthesiologists		References, Websites	

1. Course Name:	
Advance Medicine (2)	
2. Course Code:	
MTAN 4204	
3. Semester / Year:	
Semester-2 2025-2026	
4. Description Preparation Date:	
4/2/2026	
5. Available Attendance Forms:	
Full-time and official attendance hours	
6. Number of Credit Hours	
(5 hours- 2 theoretical + 3 practical) / Number of Units (3)	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lec. Douaa Ameer Hashim	
Email: alshwailyduaa112@gmail.com	
8. Course Objectives	
Course Objectives - Introduce the student to the different organs of the body and the effects of injuries and diseases on them from an anatomical and physiological perspective, including their complications. - The student will also learn about the signs and symptoms of these conditions and the basic frameworks for managing them. - Additionally, students will be introduced to cases that require medical intervention and the nature of such interventions (particularly those they may encounter during surgeries and in intensive care, with emphasis on emergency situations). At this stage, Emergency Medicine and War Medicine are studied in detail, along with the continuation of studying other body systems that were initiated in the third stage. Students will also be introduced to the most critical and life-threatening conditions that they may face in their practice.	
9. Teaching and Learning Strategies	

Strategy	1. Simulation-Based Learning: Utilizing various diagnostic techniques and simulation labs to train students on realistic clinical scenarios in a safe environment. 2. Problem-Based Learning: Presenting complex clinical cases for students to analyze, enhancing critical thinking and decision-making skills. 3. Direct Clinical Education: Engaging students in practical training in both real and virtual clinical settings.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1,2	10	The student should understand the function of the parathyroid and adrenal glands and their hormones, and recognize their main clinical disorders.	Parathyroid gland & calcium balance., Adrenal gland	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
3,4	10	The student should understand diabetes mellitus, its management and complications, and the preparation of patients with obstructive jaundice.	D.M, complications, management, preparation for operation. Preparation of patient with obstructive jaundice	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations

5,6	10	The student should understand the preparation of patients with portal hypertension due to cirrhosis and the management of haematemesis and melaena.	Preparation of patient with portal hypertension due to cirrhosis, Management of haematemesis, melaena	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
7,8	10	Manage haemopneumothorax, flail chest, respiratory failure, and ARDS with respiratory support and treating the cause	Management of haemopneumothorax, flail chest, Management of respiratory failure, ARDS	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations

9,10	10	Manage coagulopathy and DIC, treat septicemia and MOFS with organ support, infection control, and addressing the underlying cause.	Management of coagulopathy, DIC Management of septicemia, MOFS	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
11,12	10	Manage electrical injuries, coma, and consciousness disturbances with ABCs, neurological assessment, and treating the underlying cause.	Electrical injury, Coma and other disturbance of consciousness	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
13	5	Manage venoms, bites, and stings with ABCs, toxin removal, complication	Venoms, bites and stings	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations

		management, and treating the cause.			
14	5	Manage anaphylaxis and transfusion reactions with ABCs, adrenaline administration, complication management, and treating the cause	Anaphylaxis and transfusion reaction	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
15	5	Principles of drug therapy and management of poisoning with ABC toxin removal, appropriate drug treatment, and patient monitoring	Principle of drugs therapy and management of poisoning	A, Theoretical lecture using a program PowerPoint	Midterm exams Final exams evaluations
11. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc Assessment and Grading (Total: 100 Marks)					

• Continuous Assessment (60 marks): • Daily preparation • Quizzes and monthly exams • Written assignments • Reports • Attendance and participation • Final Examination (40 marks): • Written/Theoretical exam: 35 marks • Practical exam: 25 marks	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Non
Main references (sources)	Oxford hand book of clinical medicine, sixth edition, Longmore, Murray,2004 Harrisons principle of internal medicine 2th edition 2018
Recommended books and references (scientific journals, reports...)	Davidson’s Principles and Practice of Medicine
Electronic References, Websites	University educational platform

1. Course Name:	
Emergency Medicine	
2. Course Code:	
MTAN 4205	
3. Semester / Year:	
Semester (2) / 4th level/ 2025-2026	
4. Description Preparation Date:	
02/02/2026	
5. Available Attendance Forms:	
Full attendance in university halls and labs.	
6. Number of Credit Hours	
(5) 2 theoretical + 3 practical / Number of Units (3)	
7. Course administrator's name	
Name: Dr. Hussein Ali Hussein	
Email: husein.hussein@alayan.edu.iq	
8. Course Objectives	
General Objective: To equip the students with the fundamental knowledge and clinical skills necessary to assess, manage, and stabilize patients presenting with a wide range of urgent and life-threatening medical and traumatic conditions, in accordance with emergency medicine principles and practices.	Specific Objective: By the end of the course, the student will be able to: 1- Master Initial Assessment & Life-Saving Interventions: Perform rapid patient assessment, airway management, and cardiopulmonary-cerebral resuscitation (CPCR) in critical emergencies. 2- Diagnose and Manage Cardiovascular & Critical Medical Emergencies: Recognize and treat cardiac dysrhythmias, shock (including septic shock), severe sepsis, and hypertensive crises. 3- Assess and Stabilize Trauma & Environmental Emergencies: Manage traumatic injuries, environmental emergencies (e.g.,

	heat/cold exposure, poisoning), and toxicological exposures. 4- Evaluate and Approach Respiratory and Neurological Urgencies Across Ages: Assess and manage shortness of breath in adults and children, seizures, and other neurological emergencies within an emergency context.
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9. Teaching and Learning Strategies

Strategy	1-Using high-fidelity mannequins and virtual emergency scenarios to practice airway management, resuscitation, and trauma care in a controlled, risk-free environment. 2-Case-based interactive learning: Presenting real clinical cases (e.g., sepsis, dysrhythmias, toxicology) for analysis and discussion to develop diagnostic reasoning and emergency decision-making skills. 3-Supervised clinical immersion: Involving student's in supervised emergency department rotations and hands-on skills labs to apply theoretical knowledge in real or simulated clinical settings.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theory +3 practical	Definition the emergency, triage and basic assessment methods	Principles of Emergency Medicine	Theoretical and practical lecture using PowerPoint	Pop-up exam live question + attendance + midterm and final exam
2	2 theory	Basic strategies for managing the	Airway management	Theoretical and	Pop-up exam

	+3 practical	airway difficulties in emergency		practical lecture using PowerPoint	live question + attendance + midterm and final exam
3	2 theory +3 practical	Steps of CPR in emergency department, its devices and drugs	Cardiopulmonary and cerebral resuscitation	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
4	2 theory +3 practical	Definition the most common types of dysrhythmias	Cardiac dysrhythmias	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
5	2 theory +3 practical	Definition of septic shock, its investigation and management.	Severe sepsis and septic shock	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
6	2 theory +3 practical	Definition of shock, its physiology, investigation and management.	Shock	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
7	2 theory +3 practical	Explain the common traumatic injuries in emergency department	Traumatic injuries	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
8	2 theory +3 practical	Defining the commonest services in emergency	Emergency medical services	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam

		department			
9	2 theory +3 practical	Types and degrees hypertension crises	Hypertensive urgencies and emergencies	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
10	2 theory +3 practical	Define the Seizures and its types, causes and management	Seizures	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
11	2 theory +3 practical	Defining the SOB in adults and its pathophysiology, and associated signs	Shortness of breath in adults	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
12	2 theory +3 practical	Defining the SOB in pediatrics and its pathophysiology, and associated signs	Shortness of breath in children	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
13	2 theory +3 practical	Defining the common conditions which enrolled within the Toxicological emergencies	Toxicological emergencies	Theoretical and practical lecture using PowerPoint	Pop-up exam + live question + attendance + midterm and final exam
14+15	4 theory +6 practical	Defining the Common	Environmental emergencies	Theoretical and practical lecture	Pop-up exam

		conditions which enrolled within the Environmental emergencies		using PowerPoint	live question + attendance + midterm and final exam

11.Course Evaluation

The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.

1- 40 points for effort (daily exam + attendance + participation + reports).

2- 60 points for final exam (35 points for theory + 25 points for practical).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Non
Main references (sources)	1. Emergency Medicine 2002. 2. The future of emergency medicine 2010. 3. Textbook of adult emergency medicine. 2015
Recommended books and references (scientific journals, reports...)	Textbook of adult emergency medicine 2015
Electronic References, Websites	University educational platform