

Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIEED

SCIENCES



Program Anesthesia Technician

Course Specification of Advanced Technology Anesthesiology

Course No. (08 01 832)

2024

Template for Course Specification

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

I. Course Identification and General Information:

1	Course Title:	Advanced Technology Anesthesiology			
2	Course Code & Number:	08 01. 832			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Field	
		2	2	--	--
4	Study Level/ Semester at which this Course is offered:	Level4\2term			
5	Pre –Requisite (if any):	None			
6	Co –Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Bachelor of Anesthesia Technician			
8	Language of Teaching the Course:	English			
9	Study System:	Semester Based System			
10	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Medical Applied Science			
12	Prepared by:	Associate Prof: Morsal.AL- Najir			
13	Date of Approval:	2024-1446 ^{Ah}			

II. Course Description:

The Advanced Anesthesia Technology course is designed for healthcare professionals seeking to

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

enhance their knowledge and skills in the field of anesthesia. This course covers advanced topics such as the principles of anesthesia pharmacology, the latest monitoring techniques, and innovative equipment used in modern anesthetic practices. Participants will explore the integration of technology in anesthesia delivery systems, including automation, data management, and quality control.

III. Course Intended Learning Outcomes (CILOs) : (مخرجات تعلم المقرر)

A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	understand the principles and concepts of advanced anesthesia practices and technology used in various clinical settings.	A1	Demonstrate the concepts and principles of anesthesia and different basic and humanities courses and its applications in anesthesia practice
a2	Demonstrate proficiency in the operation and troubleshooting of advanced anesthesia equipment, including monitoring systems, infusion pumps, and ventilation devices.	A4	Describe normal and abnormal human behaviors, structure and function of human body and identify the basics of intensive care, medical emergencies that the anesthetist and high dependency care units and how to manage patients at risk.
a3	Identify and manage complications and emergencies related to anesthesia administration, including recognition of adverse reactions and appropriate interventions.	A3	Recognize the full details about the basic physics and its applications in anesthesia, the equipment's and apparatus in anesthesia and critical care unit.

B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Assess and critically appraise current research and developments in anesthesia technology to inform evidence-based practice.	B2	integrate assessment data to formulate anesthesia diagnosis.
b2	Analyze and apply pharmacological principles relevant to anesthesia, including drug interactions, dosing calculations, and patient-specific	B3	synthesize knowledge derived from, medical, anesthesia, basic sciences and humanities courses into the practice of anesthesia

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

	considerations.		
C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:			
c1	Implement best practices in patient safety and quality assurance within the anesthesia care environment.	C1	Administer a range of assessment techniques, procedures and management appropriate to patient condition and maintain fluid therapy and blood transfusion.
c2	Develop effective communication skills to educate patients and their families about anesthesia processes and address concerns	C2	Perform an approach to the assessment of risk and need for consultation for an anesthetics, identify appropriate laboratory investigations, pre-medications and fasting guidelines and Set up anesthesia machine and its connections and demonstrate appropriate application and interpretation of commonly used monitors in anesthesia preoperatively
C3	Exhibit professionalism and adherence to ethical standards in the practice of advanced anesthesia technology.	C3	Apply the skills necessary for maintaining a patent airway, manual ventilation, intubation and mechanical ventilation. and Perform the proper technique of anesthesia (general, regional or local anesthesia)
D. Transferable Skills: Upon successful completion of the course, students will be able to:			
d1	Communicate effectively with patients, families, and healthcare team members.	D1	Communicate effectively with individuals and groups and members of the health team in order to promote effective interpersonal relationships and teamwork
d2	Collaborate effectively with interdisciplinary teams to optimize anesthesia management and improve patient outcomes.	D2	Demonstrate professional, ethical, moral, legal, and spiritual concepts into one's practice within a global environment

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
a1	understand the principles and concepts of advanced anesthesia practices and technology used in various clinical settings.	- Interactive lecture - Seminars and student presentations - Brain storming, role-play and simulation - Small group for discussing	- Assignments - Quizzes - Mid-term Exam - Final exam - Presentations
a2	Demonstrate proficiency in the operation and troubleshooting of advanced anesthesia equipment, including monitoring systems, infusion pumps, and ventilation devices.	- Interactive lecture - Seminars and student presentations - Brain storming, role-play and simulation - Small group for discussing	- Assignments - Quizzes - Mid-term Exam - Final exam - Presentations
A3	Identify and manage complications and emergencies related to anesthesia administration, including recognition of adverse reactions and appropriate interventions.	- Interactive lecture - Seminars and student presentations - Brain storming, role-play and simulation - Small group for discussing	- Assignments - Quizzes - Mid-term Exam - Final exam - Presentations
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

b1	Assess and critically appraise current research and developments in anesthesia technology to inform evidence-based practice.	- Interactive lecture - Brain storming - Role-play & simulation - Small group discussions - Seminars and student presentations	- Assignments - Quizzes - Mid-term Exam - Final exam
b2	Analyze and apply pharmacological principles relevant to anesthesia, including drug interactions, dosing calculations, and patient-specific considerations.	- Interactive lecture - Brain storming - Role-play & simulation - Small group discussions - Seminars and student presentations	- Assignments - Quizzes - Mid-term Exam - Final exam
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
c1	Implement best practices in patient safety and quality assurance within the anesthesia care environment.	- Active learning, - Small group learning. - Learning tasks and activities	- Assignments - Quizzes - Mid-term Exam - Final exam
c2	Develop effective communication skills to educate patients and their families about anesthesia processes and address concerns	- Active learning, - Small group learning. - Learning tasks and activities	- Assignments - Quizzes - Mid-term Exam - Final exam
C3	Exhibit professionalism and adherence to ethical standards in the practice of advanced anesthesia technology.	- Active learning, - Small group learning. - Learning tasks and activities	- Assignments - Quizzes - Mid-term Exam - Final exam
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
d1	Communicate effectively with patients, families, and healthcare team members.	- Classroom discussions, - Problems solving - Case study analysis	- Presentations - Case Studies - Learning activities
d2	Collaborate with multidisciplinary teams to deliver safe and effective anesthesia care.	- Classroom discussions, - Problems solving - Case study analysis	- Presentations - Case Studies - Learning activities

IV. Course Contents:

A. Theoretical Aspect:

No.		Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1	Anesthesia Equipment and Monitoring	Anesthesia Equipment and Monitoring: - Advanced anesthesia delivery systems ○ - Ventilatory support devices ○ - Anesthesia monitoring technologies (e.g., capnography, pulse oximetry) ○ - Emerging monitoring technologies (e.g., EEG, depth of	1	2	a1, d2

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

		anesthesia monitoring)			
2	Pharmacology in Anesthesia	- Pharmacokinetics and pharmacodynamics of anesthetic agents - New anesthetic drugs and their applications - Management of anesthesia-related complications through pharmacological interventions	1	2	a1, b1
3	Patient Safety and Risk Management	- Principles of intraoperative safety - Strategies for minimizing anesthesia-related risks - Error prevention and crisis management in anesthesia	1	2	a1, b1, c1, d1
4	Anesthesia for Special Populations	- Considerations for pediatric, geriatric, and obstetric anesthesia - Anesthesia in patients with comorbid conditions (e.g., obesity, cardiovascular diseases)	2	4	a1, c1, d1
5	Regional Anesthesia Techniques	- Advanced peripheral nerve blocks - Ultrasound-guided regional anesthesia	1	2	a1, b1, c1, d1

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak



		techniques Continuous regional anesthesia and pain management strategies ○			
6		Exam	1	2	
7	Anesthesia in specific surgical contexts	Anesthesia considerations for different types of surgeries (e.g., cardiac, neuro, orthopedic) ○ Anesthesia for outpatient procedures and same-day discharge strategies ○			
8	Emerging Trends in Anesthesia Technology	Innovations in anesthesia delivery systems ○ The impact of artificial intelligence and machine learning on anesthesia practice ○ Integrating telemedicine into anesthesia care ○	3	6	a2, b2, c2, d2
9	Quality Improvement and Evidence-Based Practice:	Understanding quality metrics in anesthesia ○ Applying evidence-based guidelines in clinical practice ○ Participating in ○	2	4	a2, c2, d2

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

		anesthesia research and clinical trials			
8	Legal and Ethical Considerations	Legal and Ethical Considerations: - Informed consent in anesthesia - Ethical dilemmas in anesthesia practice - Legal responsibilities and documentation standards Clinical Simulation and Hands-On Training: - Simulation training for crisis management scenarios - Practicing advanced technical skills in a controlled environment	3	6	a2, c2, d2.C3
	Final term exam	Final term exam	1	2	a2, b2, c2, d2
Number of Weeks /and Units Per Semester			16	32	

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
-----	--------------------	-----------------	---------------	---------------------------

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

1	None			
Number of Weeks /and Units Per Semester				

C. Tutorial Aspect:				
No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	None			
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:
○ Interactive lecture ○ Seminars and student presentations ○ Brain storming ○ Role-play and simulation ○ Small group discussion ○ Learning tasks and activities ○ Problems solving ○ Case study analysis

VI. Assessment Methods of the Course:
● Assignments ● Quizzes ● Mid-term exam ● Final term exam

VII. Assignments:				
No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

1	Assignment 1: common abbreviations	W5	5	a1, b1
2	Assignment 2: drug classification	W11	5	a2, b2,
Total			10	

VIII. Schedule of Assessment Tasks for Students During the Semester:					
No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	W5,11	10	10%	a1, b1, a2, b2
2	Quizzes 1 & 2	W3, 9	10	10%	a1, a2
3	Mid-Term Theoretical Exam	W7	20	20%	a1, b1, c1, d1
4	Final Theoretical Exam	W16	60	60%	a2, b2, c2, d2
Total			100	100%	

IX. Learning Resources:

- Written in the following order: Author, Year of publication, **Title**, Edition, Place of publication, Publisher.

1. Anesthesia Equipment: Principles and Practice by Monrad P. Vogel

- A comprehensive overview of the principles behind various anesthesia equipment, focusing on design and clinical application.

2. Clinical Anesthesia by Paul G. Barash, Bruce F. Cullen, and Robert K. Stoelting

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

- This classic text provides an in-depth understanding of anesthesia practice, including advanced techniques and technologies.

3. **Anesthesia: A Comprehensive Review** by Morton N. Cohen

- Offers an extensive review of anesthesia concepts, including those related to technology and devices used in the field.

4. **Anesthesia and Perioperative Complications: A Practical Guide** by T. E. W. O'Neill

- Focuses on complications in anesthesia, emphasizing the importance of technology in monitoring and management.

1. **Fundamentals of Anesthesia Technology** by Karen P. Ziolkowski and Robert J. Follis

1. Offers insights specifically into anesthesia technology, its applications, and the role of technologists in the operating room.

2. **Principles of Anesthesia** by Robert K. Stoelting and Doyle

1. Discusses the core principles of anesthesia practice, highlighting the role of technology in improving patient care.

3. **Anesthesia Technology: A Practical Guide** by Mary K. Nally

1. A resource that bridges the gap between theory and practice, focusing on technical skills and knowledge required in the field.

4. **Perioperative Anesthesia: A Patient-Centered Approach** by John W. Roach

1. Emphasizes the integration of technology in perioperative care and management strategies in anesthesia.

5. **Advanced Anesthesia Monitoring** by Christopher J. R. T. P. McDonell

1. This text looks at advanced monitoring techniques and their importance in modern anesthesia practice.

6. **The Anesthesia Technician and Technologist's Manual** by P. Zafren

7. A valuable reference for understanding the day-to-day responsibilities and technologies utilized by anesthesia technicians

In addition to these books, it might also be helpful to review current scientific journals such as:

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

○
3- Electronic Materials and Web Sites etc.: <i>Anesthesiology</i> • <i>British Journal of Anaesthesia</i> • <i>Journal of Clinical Anesthesia</i> •

X. Course Policies: (Based on the Uniform Students' By law (2007) تترك كما هي	
1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIED

SCIENCES



Program Anesthesia Technician

Course Specification of Advanced Technology Anesthesiology

code. (08 01 832)

2024

Template for Course Syllabus

i. معلومات عن أستاذ المقرر
Information about Faculty Member Responsible for the Course

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

(3 أسابيع)			الساعات المكتبية (أسبوعياً) Office Hours			Dr. Morsal.AL- Najir		الاسم Name
الخميس THU	الأربعاء WED	الثلاثاء TUE	الاثنين MON	الأحد SUN	السبت SAT	777665495		المكان ورقم الهاتف Location & Telephone No.
								البريد الإلكتروني E-mail

I. Course Identification and General Information:

1	Course Title:	Advanced Technology Anesthesiology			
2	Course Code & Number:	08 01 832			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
		Lecture	Field		
		2	2	--	--
4	Study Level/ Semester at which this Course is offered:	Level4\2term1			
5	Pre –Requisite (if any):	None			
6	Co –Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Bachelor of Anesthesia Technician			
8	Language of Teaching the Course:	English			
9	Study System:	Semester Based System			
10	Mode of Delivery:	Full Time			
11	location of teaching the course:	faculty of medical applied science			
12	prepared by:	dr. Morsal.AL- Najir			
13	date of approval:	2024-1446 ^{ah}			

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

ii. course description:

The Advanced Anesthesia Technology course is designed for healthcare professionals seeking to enhance their knowledge and skills in the field of anesthesia. This course covers advanced topics such as the principles of anesthesia pharmacology, the latest monitoring techniques, and innovative equipment used in modern anesthetic practices. Participants will explore the integration of technology in anesthesia delivery systems, including automation, data management, and quality control.

course intended learning outcomes (cilos)

a1	understand the principles and concepts of advanced anesthesia practices and technology used in various clinical settings.	•
a2	Demonstrate proficiency in the operation and troubleshooting of advanced anesthesia equipment, including monitoring systems, infusion pumps, and ventilation devices.	•
a3	Identify and manage complications and emergencies related to anesthesia administration, including recognition of adverse reactions and appropriate interventions.	
b1	Assess and critically appraise current research and developments in anesthesia technology to inform evidence-based practice.	•
b2	Analyze and apply pharmacological principles relevant to anesthesia, including drug interactions, dosing calculations, and patient-specific considerations.	1.
c1	Implement best practices in patient safety and quality assurance within the anesthesia care environment.	
c2	Develop effective communication skills to educate patients and their families about anesthesia processes and address concerns	
C3	Exhibit professionalism and adherence to ethical standards in the practice of advanced anesthesia technology.	
d1	Communicate effectively with patients, families, and healthcare team members.	
d2	Collaborate effectively with interdisciplinary teams to optimize anesthesia management and improve patient outcomes.	

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

IV. Course Contents:

A. Theoretical Aspect:

No.		Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1	Anesthesia Equipment and Monitoring	Anesthesia Equipment and Monitoring: Advanced anesthesia delivery systems ○ Ventilatory support devices ○ Anesthesia monitoring technologies (e.g., capnography, pulse oximetry) ○ Emerging monitoring technologies (e.g., EEG, depth of anesthesia monitoring) ○	1	2	a1, d2
2	Pharmacology in Anesthesia	Pharmacokinetics and pharmacodynamics of anesthetic agents ○ New anesthetic drugs and their applications ○ Management of anesthesia-related complications through pharmacological interventions ○	1	2	a1, b1

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

3	Patient Safety and Risk Management	- Principles of intraoperative safety - Strategies for minimizing anesthesia-related risks - Error prevention and crisis management in anesthesia	1	2	al, bl, cl, d1
4	Anesthesia for Special Populations	- Considerations for pediatric, geriatric, and obstetric anesthesia - Anesthesia in patients with comorbid conditions (e.g., obesity, cardiovascular diseases)	2	4	al, cl, d1
5	Regional Anesthesia Techniques	- Advanced peripheral nerve blocks - Ultrasound-guided regional anesthesia techniques - Continuous regional anesthesia and pain management strategies	1	2	al, bl, cl, d1
6		Exam	1	2	
7	Anesthesia in specific surgical contexts	- Anesthesia considerations for different types of surgeries (e.g., cardiac, neuro, orthopedic) - Anesthesia for outpatient procedures			

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

		and same-day discharge strategies			
8	Emerging Trends in Anesthesia Technology	- Innovations in anesthesia delivery systems - The impact of artificial intelligence and machine learning on anesthesia practice - Integrating telemedicine into anesthesia care	3	6	a2, b2, c2, d2
9	Quality Improvement and Evidence-Based Practice:	- Understanding quality metrics in anesthesia - Applying evidence-based guidelines in clinical practice - Participating in anesthesia research and clinical trials	2	4	a2, c2, d2
8	Legal and Ethical Considerations	Legal and Ethical Considerations: - Informed consent in anesthesia - Ethical dilemmas in anesthesia practice - Legal responsibilities and documentation	3	6	a2, c2, d2.C3

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

		standards 3. Clinical Simulation and Hands-On Training: Simulation training for crisis management scenarios Practicing advanced technical skills in a controlled environment			
	Final term exam	Final term exam	1	2	a2, b2, c2, d2
Number of Weeks /and Units Per Semester			16	32	

C. Tutorial Aspect:				
No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	None			
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:
○ Interactive lecture ○ Seminars and student presentations ○ Brain storming ○ Role-play and simulation ○ Small group discussion ○ Learning tasks and activities ○ Problems solving ○ Case study analysis

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

VI. Assessment Methods of the Course:

- Assignments
- Quizzes
- Mid-term exam
- Final term exam

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Assignment 1: common abbreviations	W5	5	a1, b1
2	Assignment 2: drug classification	W11	5	a2, b2,
Total			10	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	W5,11	10	10%	a1, b1, a2, b2
2	Quizzes 1 & 2	W3, 9	10	10%	a1, a2
3	Mid-Term Theoretical Exam	W7	20	20%	a1, b1, c1, d1

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

4	Final Theoretical Exam	W16	60	60%	a2, b2, c2, d2
Total			100	100%	

IX. Learning Resources:

• IX. Learning Resources:

Written in the following order: Author, Year of publication, Title, Edition, Place of publication, Publisher.

5. **Anesthesia Equipment: Principles and Practice** by Monrad P. Vogel

- A comprehensive overview of the principles behind various anesthesia equipment, focusing on design and clinical application.

6. **Clinical Anesthesia** by Paul G. Barash, Bruce F. Cullen, and Robert K. Stoelting

- This classic text provides an in-depth understanding of anesthesia practice, including advanced techniques and technologies.

7. **Anesthesia: A Comprehensive Review** by Morton N. Cohen

- Offers an extensive review of anesthesia concepts, including those related to technology and devices used in the field.

8. **Anesthesia and Perioperative Complications: A Practical Guide** by T. E. W. O'Neill

Focuses on complications in anesthesia, emphasizing the importance of technology in monitoring and management.

8. **Fundamentals of Anesthesia Technology** by Karen P. Ziolkowski and Robert J. Follis

1. Offers insights specifically into anesthesia technology, its applications, and the role of technologists in the operating room.

9. **Principles of Anesthesia** by Robert K. Stoelting and Doyle

1. Discusses the core principles of anesthesia practice, highlighting the role of technology in improving patient care.

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

10. **Anesthesia Technology: A Practical Guide** by Mary K. Nally

1. A resource that bridges the gap between theory and practice, focusing on technical skills and knowledge required in the field.

11. **Perioperative Anesthesia: A Patient-Centered Approach** by John W. Roach

1. Emphasizes the integration of technology in perioperative care and management strategies in anesthesia.

12. **Advanced Anesthesia Monitoring** by Christopher J. R. T. P. McDonell

1. This text looks at advanced monitoring techniques and their importance in modern anesthesia practice.

13. **The Anesthesia Technician and Technologist's Manual** by P. Zafren

14. A valuable reference for understanding the day-to-day responsibilities and technologies utilized by anesthesia technicians

In addition to these books, it might also be helpful to review current scientific journals such as:

- Electronic Materials and Web Sites etc.: **Journals:** Electronic Materials and Web Sites etc.: •
-

Websites: *British Journal of Anaesthesia* •

Journal of Clinical Anesthesia

X. **Course Policies: (Based on the Uniform Students' By law (2007) تترك كما هي (2007))**

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak

	the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Prepared by:	Reviewed by:	Head of the Department:	Quality Unit:	Dean
Dr. Morsal.AL- Najir	Dr. Omar AL faki	Dr.Fares Mahdi	Dr.Fadl Shujaa Al-deen	Dr. Abdulsalam Dallak