Kingdom of Saudi Arabia
Ministry of Higher Education
Umm Al Qura University
Faculty of Applied Medical Sciences
Anesthesia Technology Program

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STUDENT MANUAL FOR BACHELOR IN ANESTHESIA TECHNOLOGY

Anesthesia Technology Program

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Faculty of Applied Medical Sciences
Anesthesia Technology Program
Umm Al Qura University, Makkah
P. O. Box – 715 (University Campus)
Makkah
Kingdom of Saudi Arabia
Tel +966 - 2-5501000
Fax +966- 2-5593997

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A Walk Through Umm Al Qura University – Makkah

Umm Al-Qura University is a public university in Makkah, Saudi Arabia. It was established as the College of Shari`a (Islamic Law) in 1949 before being joined by new colleges and renamed Umm Al-Qura by royal decree in 1981.

Umm Al-Qura University is primarily an Islamic university that offers degrees in Islamic Law and Arabic language studies. However, it offers scores of degrees in Public Health & Health Informatics, Technology, Management, Engineering, Medicine, Education, as well various Applied Sciences.

History

In 1949 King Abdul Aziz Al-Saud established the College of Shari'a (Islamic Law) in Makkah, making it the first higher education institution in the country. It constituted the kernel of Umm Al-Qura University and its most prominent college. It was followed by the establishment of the Teachers' College in 1952. This continued until 1959 when the College of Shari'a took the responsibility of teachers' preparation and became the College of Shari'a and Education. In 1962 the College of Education was established as an independent college.

In 1971 the Colleges of Shari'a and Education became part of King Abdul Aziz University in Jeddah and constituted its branch in Mecca. However, The University of Umm Al-Qura was established in 1981 by the royal decree number 39 in 1981 and the colleges of Shari'a and Education were detached from King Abdul Aziz University and joined by new departments to form the new university.

MISSION

The Bachelor program in Anaesthesia Technology has the following mission:

1. Prepare the students for lifelong learning and leadership to benefit the healthcare community
2. Committed to training our Anaesthesia Technologists to support the anaesthesia care team in providing safe, quality and compassionate care for the surgical patient.

VISION

Become a pioneer in providing state-of-the-art educational environment, allowing students to cultivate Anaesthesia art and technology into the health care provider community, driven by compassion, guided by science, toward the safest patient care.

GOAL

The goal of the Bachelor program of Anaesthesia Technology is as follows:

"Promote teamwork approach to health care, in line with the American Society of Anaesthesiology doctrine and best practices."

OBJECTIVES

1. Train students on delivery of Anaesthesia under the medical direction of a professional Anaesthesiologist.
2. The curriculum is designed to concurrently introduce clinical correlation as r.
3. Relate classroom findings to clinical experiences.
4. Provide a list of criteria for formal evaluations of the students' daily performance in the OR.
5. Provide ample opportunities to participate in a variety of aesthetic clinical scenarios.
6. Ensure effective dynamics through a successful encoding-decoding communication process.
7. Assure continual feedback and re-evaluation mechanism toward a safe, cost effective, and quality anaesthesia service.

Accordingly, the program is designed to assure the availability of adequate tools for successfully attaining the objectives set-forth above.

PROGRAM DESCRIPTION

The Bachelor in Anaesthesia Technology program was created after identifying the following needs:

1. National Policy which is parallel with WHO policy and procedures in health care delivery system.
2. To promote our college graduates performance in health care.
3. To upgrade the scientific level and clinical skills of allied health sciences graduates in KSA for Anaesthesia technologists in both governmental and private sectors.

4. To support the profession of Anaesthesia with new efficient AT and to help them to be ranked in referral and highly specialized hospitals.

This program will prepare the students for lifelong learning and leadership to be keystone in healthcare delivery system. We are committed for training our Anaesthesia Technologists to support the Anaesthesia care team in providing safe, quality and compassionate care for the surgical patient.

COURSE DESCRIPTION

1. **Medical Terminology:** This course demonstrates the ability to anlayze and predict the probable meaning of English medical terms, and demonstrates the ability to read and create reports utilizing standard English medical terminology.
2. **Anatomy:** This course contains the study of: Microanatomy for cell, nerve, muscle, and neuromuscular junction. It also contains study of: Anatomy of the respiratory airway. Vertebral canal and it's contents, the peripheral nerves and the related blocks and lastly zones of anesthetic interest.
3. **Physiology 1:** This course contains the study of physiological topics related closely to anesthesia. These include; cardiovascular system, respiratory system, nervous system, kidney and blood.
4. **Introduction to Clinical Anesthesia:** Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop. Prepares and educates the student to work within the anesthesia care team. Introduction to induction, maintenance, and emergence from anesthesia. Includes history of anesthesia, types of anesthesia, universal precautions and infection control, layout of the operating room, sterile fields and techniques, interacting with patients, starting intravenous catheters and arterial cannulae, obtaining arterial blood samples, and application of ASA-standard monitors. Students will utilize anesthesia simulator to gain the basic knowledge and usage of monitors.
5. **Anesthesia Laboratory-I:** A state-of- the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator. Patient modalities are explored, such as pulse oximetry, capnography, and blood pressure monitoring systems. Laboratory experiments will develop the students understanding of anesthesia delivery systems, various types of breathing circuits, fresh gas flow effect, theory of dilutional methods of cardiac output monitoring, relations between Mean circulatory filling pressures and Central venous pressure. A vascular sonography lab will allow a unique and comprehensive understanding of transesophageal and transthoracic echocardiography, cerebrovascular testing, and venous and peripheral arterial testing.
6. **Pharmacology-1:** This course contains the study of general pharmacology, CNS stimulants, CNS depressants, including general anesthetic (both intravenous and inhalational), and drugs acting on the ANS. Lastly the course contains the study of addiction. It also contains study of: Anatomy of the respiratory airway. Vertebral canal and its contents, the peripheral nerves and the related blocks and lastly zones of anesthetic

interest.

7. **Anesthesia Clinical PRACTICE – 1:** Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the laboratory. Participation and responsibilities increase through the year as knowledge and skills develop. Prepares and educates the student to work within the anesthesia care team. Introduction to induction, maintenance, and emergence from anesthesia. Students will utilize anesthesia simulator to gain the basic knowledge (anatomical and physiological related to anaesthesia practice.
8. **Clinical Anesthesia-I:** Developmental skills and foundations of the clinical practice of anesthesia gained through one-on-one supervised instruction in the operating room and other ancillary anesthetizing locations. Participation and responsibilities increase through the year as knowledge and skills develop.
9. **Pharmacology-2:** This course contains the study of drugs acting on the CVS, Diuretics, Local anesthesia drugs. Autocoids, Corticosteroids, Antiemetics, Antacids, Disinfectants, Muscle relaxants, Antibiotics, and Lastly I.V. Fluids
10. **Patient Monitoring And Instrumentation-I:** The course contains important topics related to anesthesia and intensive care and are necessary in acquiring the skills of anesthesia technician. These topics include systemic international units measurement, measurement and monitoring pulse, blood pressure, temperature and ventilation. They also include monitoring ECG, monitoring neuro-muscular junction, measurement and monitoring blood gas and lastly calculation of the blood loss during surgery.
11. **Physics for Anesthesia:** The course contains important topics related to anesthesia, these topics include, Biophysics, Laws of gases, flow of gases and liquids through both tubes and orifices, surface tension, osmotic pressure, laws of temperature, analysis of a mixture of gases, measurement of flow of gases and measurement of blood flow, measurement of pressure and lastly nuclear physics.
12. **Principles Of Airway Management:** This course trains the students to master the advanced skills of airway management to be used in the field for both trauma and medical patients when the need arise.
13. **Physiology-2:** This course contains the study of the following topics: Neuromuscular transmission, functions of the liver, and liver function tests, hypo- and hyperfunctions of some endocrine glands (pancreas, thyroid, parathyroid, and suprarenal), physiological changes during pregnancy and physiology of the foetus, acid base balance, water and electrolytes balance and lastly body temperature and its regulation.
14. **Anesthesia clinical PRACTICE – 2:** A state-of- the-art laboratory and anesthesia simulator will prepare the student for the usage and complete understanding of the monitors and practice of anesthesia anaesthesia machine and its accessories, soda-lime, suction systems, ventilators, auxiliary tools used in anesthesia. Students will apply their didactic knowledge to scenarios on the anesthesia simulator.
15. **Clinical Anesthesia-II:** The course contains an emphasized study to anaesthesia machine and its accessories, soda-lime, suction systems, ventilators, auxiliary tools used in anesthesia, filters, transfusion sets, microdroppers, pump syringes, and B.P. transducers etc.
16. **Epidemiology:** This course introduces basic epidemiologic concepts including determinants of health and patterns of disease in populations and implications of disease processes on prevention strategies and policy development. Among the topics to be covered are measures of morbidity and mortality, sources of data, and design of research

studies and clinical trials.

17. **Medical biostatistics:** An introduction to statistical methods that are of particular interest to students majoring in medical and healthcare technical specialties for self-awareness and familiarization with handling, analyzing, interpreting, and presenting data of different researches and study designs.
18. **Principles of anesthesia:** The course contains an emphasized study to mechanism of anesthesia and consciousness, genomic basic of peri-operative medicine, pharmacological principles. Electrical and fire safety, Anesthesia principles, History of anesthesia and occupational health.
19. **Environmental hygiene & safety:** Design of the operating suite, biological contamination, physical contamination, Disinfection, sterilization, fires and explosions. Dangers of electricity, precautions during using electrical equipment, regulation of temperature, Illumination, and humidity inside operating rooms and lastly care for anesthetic tools and equipment after use.
20. **Electrocardiograph (ECG):** Basic and advanced ECG interpretation using simulators to understand an overview of heart anatomy, function, and neurophysiology.
21. **Anesthesia Laboratory-II:** The course contains an emphasized study hazards of anaesthesia machine and breathing systems, ventilators, circle system, Face masks and airways, laryngoscopes, Tracheal tubes and associated equipments, Lung isolation devices, devices managing the difficult air ways, gas monitoring, airway volumes, flows and pressure, temperature control equipment, cleaning and sterilization
22. **Anesthesia clinical PRACTICE – 3:** The course contains an emphasized study to anaesthesia machine and its accessories, soda-lime, suction systems, ventilators, auxiliary tools used in anesthesia, filters, transfusion sets, microprocessors, pump syringes, and B.P. transducers and monitoring modalities in patient care and applications of different methods of sterilization, disinfection and aseptic precautions used to clean anaesthesia equipments.
23. **Clinical Anesthesia-III:** This course contains the study of: registration and statistics in anaesthesia; it also provides a guide for ethics and general relations of anaesthesia technician; finally the course end by studying recovery units in detail.
24. **Anesthesia principles and practices:** This course contains the study of principles of anesthesia and practice to general and regional anesthesia techniques, Local and general anesthesia drugs. Principles of anesthesia machine, and also study of the different positions of the patient during surgery and it's effect on the physiological functions of the body.
25. **Practicum seminar in anesthesia practices:** Aims the study of cardiac complications and their management. Threatened cardiac complications under G.A. e.g. V.T., V.F., Pulse less electrical activity, etc. Use of nerve stimulator, Rapid sequence induction etc.
26. **Pharmacology-3:** This course contains the study of the following topics: Drugs acting on the respiratory system, drug affecting blood coagulation, hypoglycemic drugs, anesthetic drugs abuses, and anesthetic drugs interaction.
27. **Patient monitoring & instrumentation II:** The course contains important topics related too anesthesia and intensive care, and are necessary in acquiring the skills of anesthesia technicians. These topics include: Arterial blood gas monitoring, pulse oximetry, monitoring of mixed venous oxygenation, capnometry, monitoring the control breathing, non invasive monitoring of ventilation, pulmonary artery catheterization interpretation and pressure recording, continuous cardiac output monitoring, monitoring and interpreting intracranial pressure, patient monitoring transportation.
28. **Principles of airway management-II:** This course will provide an opportunity to learn and

appreciate structure, function, pathophysiology, disease and management of the human airway. The basic and advanced principles of airway management, elective and emergent will be covered, including equipment and techniques. Examination, recognition, techniques and management involved in pediatric and adult difficult airways. Course will correlate with laboratory work for a better understanding and use of bag/ mask ventilation, oral and nasal airways, oral and nasal intubations techniques, lightwands, fiberoptic intubations, double lumen tubes, surgical airways, and application of laryngeal mask airway.

29. **Anesthesia clinical PRACTICE – 4:** The course contains an emphasized study to know and interpret the different procedures practiced for different types of surgery. Preparation of basic and advanced anaesthesia equipments setup for all types of cases.
30. **Clinical Anesthesia-IV:** This course contains the study of anesthesia for different surgical, Ophthalmic, ENT, Urologic, neuro, Thoracic, Cardiac, Dental and lastly Plastic surgery. It also contains anesthesia in radiology and psychiatry departments. Lastly, it provides three important topics; these are: Hypotensive anesthesia Hypothermic anesthesia and obesity.
31. **Anesthesia review 1:** Know and interpret the different procedures practiced for different types of surgery. Interpret the arterial blood gases and other cardiovascular parameters
32. **Essentials of Critical Care Medicine:** Design of I.C.U. types of critical care units and their objectives, equipment inside I.C.U drugs available in I.C.U. Oxygen deficiency, therapy and toxicity, primary. Artificial nutrition, assessment and resuscitation of the newborn, heart failure, renal failure and dialysis, shock, pain theories and treatment, samples collection , cardiac and respiratory emergencies.
33. **ANAESTHESIA CLINICAL PRACTICE-5:** The course contains an emphasized study to know and interpret the different procedures practiced for different types of surgery. Preparation of basic and advanced anaesthesia equipments setup for all types of cases. Preparation of drugs for emergency and resuscitation.
34. **Directed Studies in Anesthesiology:** The course explain certain hot topics in anesthesia and critical care medicine, to let them oriented with different challenges in patient management in different situations.
35. **Problem Solving and Decision making in Anesthesiology:** The aim of the course is to teach the students certain hot topics in anesthesia and critical care medicine, to let them oriented with different challenges in patient management in different situations, like challenges in difficult airway management, full stomach, dealing with elderly patient.
36. **Anesthesia Review 2:** By the end of this course, the student must be able to: Know and interpret the different procedures practiced for different types of surgery. How to deal with patients in different critical situations like:
    - Lung transplantation
    - Congenital Diaphragmatic hernia
    - Thoracoabdominal aortic aneurysms
    - Abdominal aortic aneurysm repair
    - Tetralogy of fallouts
    - Intestinal obstruction
    - Carotid endarterectomy
37. **Principles of Health care Management:** This is an introductory course concerned with studying the principles of management at healthcare settings. Key principles of practices of management will be taught in this course. Participants will be exposed to concepts that

reflect management concepts, divisions, challenges, and functions, e.g., planning, organizing, leading, and controlling. The content of this course applies to different kinds of healthcare enterprises, e.g., hospitals, public health organizations, health systems, physician clinics, for-profit firms, not-for-profit enterprises, etc.

38. **Research Methodology:** This is an intensive course that provides student with hands-on experience running studies, analyzing and interpreting data, and with preparation of research presentations (using APA writing style). Assignments are stressed on. It is important to keep up with the class.
39. **ANAESTHESIA CLINICAL PRACTICE-6:** The course contains an emphasized study to know and interpret the different procedures practiced for different types of surgery. Preparation of basic and advanced anesthesia equipments setup for all types of cases, preparation of drugs for emergency and resuscitation

DEVELOPMENT OF LEARNING OUTCOMES IN DOMAINS OF LEARNING

a. Knowledge
(i) Summary description of the knowledge to be acquired: - Recognize fundamental concepts and definitions of anesthesia technology. - Recognize specific principles and theories from physics, anesthesia, sterilization and the monitoring devices. - Understand soundly human anatomy, physiology and pharmacology. - Recognize biological and physiological changes which developed as a normal consequence of aging process and those resulting from a pathological origin. - Identify the pathological changes and related clinical features of conditions commonly affected by anesthesia drugs. - Identify clinical reasoning approaches in the selection, justification and review of appropriate treatment. - Understand the ethical and legal dimensions that affect the anesthesia. - Promote research awareness and its application to anesthesia practice.
(ii) Teaching strategies to be used to develop that knowledge: Learning Aids : • Study guides, lecture notes. • Lecture handouts and syllabi. • Open course libraries, • Digital studies. • Scientific bulletin • Seminar for discussion of specialized problems and current medical topics. • Participation methods of teaching help the students to understand more about the subject when the students participate that means that they understand and remember the facts about the section and that they are not confused.

The teaching methods should be modern or modernized meaning they should be new ways of teaching because old ways of teaching are usually more rugged confusing and difficult.

(iii) Methods of assessment of knowledge acquired:

- POP quizzes, pre and post-test exam, article critical and implementation of OSCE , MCQs , structures questions , case discussion .

b. Cognitive Skills:

(i) Cognitive skills to be developed and level of performance expected:

- Demonstrate the ability to extract pertained information for a given patient through reviewing the provided medical documents.
- Formulate a realistic achievable goals taking into consideration drug mechanisms and patient outcome.
- Select appropriate strategy for specific targets.
- Analyze the treatment outcomes in relation to the presented goals and interpret the collected data to reach decision about the progress of the patient.
- Provide and receive constructive criticism.
- Appreciate the complexities of anesthesia health care systems.
- Utilize critical inquiring to develop and substantiate rationale of intervention plan for given patient.
- Justify specific anesthesia plan of the patient using problem solving and clinical simulator skills..

(ii) Teaching strategies to be used to develop these cognitive skills

- A case study presentation to teach students how to analyse information and how to predict a decision.
- Open ended task.

(iii) Methods of assessment of students cognitive skills :

- Group and individual assignments.
- Case study, class participation and presentation , group discussions , POP quiz , pre and post-operative test , MCQs.
- Implementation of OSCE .

c. Interpersonal Skills and Responsibility:

(i) Description of the level of interpersonal skills and capacity to carry responsibility to be developed:

- How to collect data from different sources.
- How to perform good peri operative evaluation for different clinical cases.
- How to work as a work team player.
- How to practice with respect to the responsibility toward patients, & community.
- How to work effectively as a member of a team and participate constructively in groups.
- How to assess the relevance and importance of the ideas of others.
- Having a positive attitude.
- Professionalism as honesty, respect, ethical patient care and acts as a member of

the health care team.

(ii) Teaching strategies to be used to develop these skills and abilities:

- Team working skills through simulation protocols
- Social and cultural activities.
- On site clinical practice in which students will be assigned to a particular patient simulator problems and how to put an ideal management under supervision.
- Group discussion.
- Class presentation

(iii)Methods of assessment of students interpersonal skills and capacity to carry responsibility:

- Group discussions
- Group projects and presentations
- Individual project and presentation.

d. Communication, Information Technology and Numerical Skills

(i) Description of the communication, IT and numerical skills to be developed:

- Communicate effectively with patient relatives and health care professionals establishing professional and ethical relationship.
- Communicate accurately, clearly, confidently, and effectively in writing and orally.
- Project presentation individuals and groups.
- Understanding health care delivery system
- Access information sources (e.g. libraries, database, and scientific papers) to gain new knowledge about rehabilitation of burn cases.
- The ability to document the patient's information digitally.
- The ability to conduct oral presentation to the patient's condition.
- The ability to be an active participator on the health service team work.
- The ability to practice within the ethical, cultural, and professional standards.
- The ability to use the IT as in documentation and for electronic medical records.

(ii) Teaching strategies to be used to develop these skills:

- Writing a review paper for the students to gain the skills of self- learning and presentation
- Seminars
- Implement the digital documentation in clinical practice
- Hands on training on different software like Microsoft office and specialized clinical programs

(iii) Methods of assessment of students numerical and communication skills:

- Implementation of OSCE exam.
- Student's representative work with insistence on adequate using of numerical and communication skills.

e. Psychomotor Skills (if applicable):

(i) Description of the psychomotor skills to be developed and the level of performance required:

- Use effectively anesthesia tools and patient monitoring instruments in accordance with standard guidelines.
- Conduct efficiently skills of manual therapy including mobilization, soft tissue manipulation and respiratory therapy techniques with continual analysis and evaluation of outcome.
- Implement safely and effectively principles of airway management.
- Handling anesthesia drugs and preparation for techniques.
- Use efficiently and safely the relevant equipment.
- Considering effectively clinical diagnosis and investigations during patient's management.
- Follow programs to the present situation and available facilities.
- Apply the professional concepts in dealing with patients and their relatives.
- Consider moral, ethical and legal issues.
- Learn how to control his/her emotions as well as handle such circumstances under different stressful situations.
- Prepare proper medications under stressful circumstances

(ii) Teaching strategies to be used to develop these skills:

- Audio visual demonstration of different clinical situations.
- Practical assignments where a specific time limit is given to the student.
- Assignments where student should perform a practical demonstration in front of his colleagues.

(iii) Methods of assessment of students psychomotor skills:

- Students will be evaluated for different assignments.
- Technical and clinical skills on simulator protocols.
- Check points (step-by-step) evaluation to ensure that student has mastered each procedure before proceeding to next one.
- Difficult techniques on mannequin evaluation.

PROGRAM DESCRIPTION

Curriculum Table Contents

FIRST YEAR / FIRST SEMESTER (FIRST LEVEL)

السنة الدراسية الأولى - الفصل الدراسي الأول (المستوى الدراسي الأول)

اسم المقرر	الرمز	الساعات المعتمدة		Credit Hours		Code	Course Title
		ن	ع	P	T		
أساسيات الوراثة البشرية	**4810110-2**	2			2	**4810110-2**	Basic Human Genetics
اساسيات الكيمياء الحيوية 1	**4810120-2**	2			2	**4810120-2**	Basic Biochemistry 1
مهارات الحاسب الالي 1	**4800150-2**	2			2	**4800150-2**	Computer Skills
لغة إنجليزية	**4800170-6**	3	3	3	3	**4800170-6**	English Language
مهارات التعلم	**4800104-3**	2	1	1	2	**4800104-3**	Learning Skills
المجموع		**11**	**4**	**4**	**11**	**Subtotal**	
الإجمالي		**15**		**15**		**TOTAL**	

FIRST YEAR / SECOND SEMESTER (SECOND LEVEL)

السنة الدراسية الأولى - الفصل الدراسي الثاني (المستوى الدراسي الثاني)

اسم المقرر	الرمز	الساعات المعتمدة		Credit Hours		Code	Course Title
		ن	ع	P	T		
اساسيات الكيمياء الحيوية	**4810121-2**	2	-	-	2	**4810121-2**	Basic Biochemistry 2
مهارات برمجة الحاسب	**4800153-3**	2	1	1	2	**4800153-3**	Basic Computer Programming

المدخل الى فيزياء الطبية	**4800131-4**	3	1	1	3	**4800131-4**	Introduction to Medical Physics
اللغة الانجليزية الطبية	**4800173-4**	2	2	2	2	**4800173-4**	Medical English language
علم وظائف الخلية	**4810111-3**	3			3	**4810111-3**	Cytology
	المجموع	**12**	**4**	**4**	**12**	**Subtotal**	
	الإجمالي	**16**		**16**		**TOTAL**	

SECOND YEAR / FIRST SEMESTER (THIRD LEVEL)

السنة الدراسية الثانية - الفصل الدراسي الأول (المستوى الدراسي الثالث)

اسم المقرر	**الرمز**	**الساعات المعتمدة**		**Credit Hours**		**Code**	**Course Title**
		ن	**ع**	**P**	**T**		
قرآن 1	**605101-2**	2	-	-	2	**605101-2**	Quran 1
لغة عربية-1	**501101-2**	2	-	-	2	**501101-2**	Arabic Language 1
المصطلحات الطبية	**1706235-1**	1	-	-	1	**1706235-1**	Medical Terminology
علم التشريح	**1706231-3**	2	1	1	2	**1706231-3**	Anatomy
علم وظائف الأعضاء-1	**1706230-3**	2	1	1	2	**1706230-3**	Physiology-1
علم الأدوية-1	**1706236-2**	2	-	-	2	**1706236-2**	Pharmacology-1
مقدمة إلى التخدير	**1706232-2**	2	-	-	2	**1706232-2**	Introduction to Clinical Anesthesia
مختبر التخدير-1	**1706234-3**	2	1	1	2	**1706234-3**	Anesthesia Laboratory-1
الممارسة الميدانية	**1706233-1**	-	1	1	-	**1706233-1**	Clinical Practice
	المجموع	15	4	4	15	**Subtotal**	
	الإجمالي	**19**		**19**		**TOTAL**	

SECOND YEAR / SECOND SEMESTER (FOURTHLEVEL)

السنة الدراسية الثانية ـ الفصل الدراسي الثاني (المستوى الدراسي الرابع)

اسم المقرر	الرمز	الساعات المعتمدة		Credit Hours		Code	Course Title
		ن	ع	P	T		
الثقافة الإسلامية 1	**601101-2**	2	-	-	2	**601101-2**	Islamic Culture 1
السيرة النبوية	**102101-2**	2	-	-	2	**102101-2**	Prophets Biography
الفيزياء للتخدير	**1706245-2**	2	-	-	2	**1706245-2**	Physics for Anesthesia
علم وظائف الأعضاء-2	**1706240-3**	2	1	1	2	**1706240-3**	Physiology-2
علم الأدوية-2	**1706244-2**	2	-	-	2	**1706244-2**	Pharmacology-2
التخدير-1	**1706243-2**	2	-	-	2	**1706243-2**	Clinical Anesthesia-1
أساسيات معالجة المجاري التنفسية-1	**1706241-3**	2	1	1	2	**1706241-3**	Principles of Airway Management-1
مراقبة المريض والأجهزة-1	**1706246-3**	2	1	1	2	**1706246-3**	Patient Monitoring and Instruments-1
الممارسة الميدانية	**1706242-1**	-	1	1	-	**1706242-1**	Clinical Practice
المجموع		**16**	**4**	**4**	**16**	**Subtotal**	
الإجمالي		**20**		**20**		**TOTAL**	

THIRD YEAR / FIRST SEMESTER (FIVETH LEVEL)

السنة الدراسية الثالثة ـ الفصل الدراسي الأول (المستوى الدراسي الخامس)

اسم المقرر	الرمز	الساعات المعتمدة		Credit Hours		Code	Course Title
		ن	ع	P	T		
قرآن 2	**605201-2**	2	-	-	2	**605201-2**	Quran 2

الثقافة الإسلامية 2	**601201-2**	2	-	-	2	**601201-2**	Islamic Culture 2
التخدير-2	**1706253-2**	2	-	-	2	**1706253-2**	Clinical Anesthesia-2
أساسيات التخدير	**1706256-2**	2	-	-	2	**1706256-2**	Principle Anesthesia
علم الأوبئة	**1706250-2**	2	-	-	2	**1706250-2**	Epidemiology
أمن وسلامة البيئة لتخدير	**1706251-3**	2	1	1	2	**1706251-3**	Environmental Hygiene and Safety
مختبر التخدير-2	**1706252-3**	2	1	1	2	**1706252-3**	Anesthesia Laboratory-2
تخطيط القلب الكهربائي	**1706257-1**	1	-	-	1	**1706257-1**	Electrocardiograph (ECG)
الإحصاء الطبي	**1706255-2**	2	-	-	2	**1706255-2**	Medical Biostatistics
الممارسة الميدانية	**1706254-1**	-	1	1	-	**1706254-1**	Clinical Practice
المجموع		**17**	**3**	**3**	**17**	**Subtotal**	
الإجمالي		**20**		**20**		**TOTAL**	

THIRD YEAR / SECOND SEMESTER (SIXTH LEVEL)

السنة الدراسية الثالثة ـ الفصل الدراسي الثاني (المستوى الدراسي السادس)

اسم المقرر	**الرمز**	**الساعات المعتمدة**		**Credit Hours**		**Code**	**Course Title**
		ن	**ع**	**P**	**T**		
الثقافة الإسلامية 3	**601301-3**	3	-	-	3	**601301-3**	Islamic Culture 3
قرآن 3	**605301-2**	2	-	-	2	**605301-2**	Quran 3
التخدير-3	**1706265-2**	2	-	-	2	**1706265-2**	Clinical Anesthesia 3
أساسيات التخدير والممارسة الميدانية	**1706266-2**	2	-	-	2	**1706266-2**	Anesthesia Principles and Practices
حلقات دراسية عملية في التخدير	**1706260-2**	2	-	-	2	**1706260-2**	Practicum Seminar in Anesthesia Practices
علم الأدوية-3	**1706262-2**	2	-	-	2	**1706262-2**	Pharmacology-3
مراقبة المريض	**1706263-3**	2	1	1	2	**1706263-3**	Patient Monitoring and

والأجهزة-2							Instruments- 2
أساسيات معالجة المجاري التنفسية-2	**1706261-3**	2	1	1	2	**1706261-3**	Principles of Airway Management -2
الممارسة الميدانية	**1706264-1**	-	1	1	-	**1706264-1**	Clinical Practice
المجموع		**17**	**3**	**3**	**17**	**Subtotal**	
الإجمالي		**20**		**20**		**TOTAL**	

FOURTH YEAR / FIRST SEMESTER (SEVENTH LEVEL)

السنة الدراسية الرابعة ـ الفصل الدراسي الأول (المستوى الدراسي السابع)

اسم المقرر	**الرمز**	**الساعات المعتمدة**		**Credit Hours**		**Code**	**Course Title**
		ن	**ع**	**P**	**T**		
قرأن 4	**605401-2**	2	-	-	2	**605401-2**	Quran 4
التخدير-4	**1706272-4**	4	-	-	4	**1706272-4**	Clinical Anesthesia-4
مراجعات في التخدير-1	**1706270-2**	2	-	-	2	**1706270-2**	Anesthesia Review 1
أساسيات التعامل مع الحالات الحرجة	**1706274-4**	4	-	-	4	**1706274-4**	Essentials of Critical Care Medicine
إدارة الجودة الشاملة	**1706273-2**	2	-	-	2	**1706273-2**	Total Quality Management
الممارسة الميدانية	**1706271-1**	-	1	1	-	**1706271-1**	Clinical Practice
المجموع		**14**	**1**	**1**	**14**	**Subtotal**	
الإجمالي		**15**		**15**		**TOTAL**	

FOURTH YEAR / SECOND SEMESTER (EIGHTH LEVEL)

السنة الدراسية الرابعة ـ الفصل الدراسي الثاني (المستوى الدراسي الثامن)

اسم المقرر	الرمز	الساعات المعتمدة		Credit Hours		Code	Course Title
		ن	ع	P	T		
الثقافة الإسلامية 4	**601401-2**	2	-	-	2	**601401-2**	Islamic Culture 4
دراسات مباشرة في علم التخدير	**1706283-2**	2	-	-	2	**1706283-2**	Directed Studies in Anesthesiology
حل المشاكل واتخاذ القرار في التخدير	**1706285-2**	2	-	-	2	**1706285-2**	Problem Solving and Decision Making in Anesthesiology
مراجعات في التخدير-2	**1706282-2**	2	-	-	2	**1706282-2**	Anesthesia Review 2
بحث علمي	**1706280-4**	2	2	2	2	**1706280-4**	Research Methods Research Methodology
أساسيات الإدارة الصحية	**1706284-2**	2	-	-	2	**1706284-2**	Principles of Health Care Management
الممارسة الميدانية	**1-1706281**	-	1	1	-	**1-1706281**	Clinical Practice
المجموع		**12**	**3**	**3**	**12**	**Subtotal**	
الإجمالي		**15**		**15**		**TOTAL**	

TOTAL
140

- ***BLS Certification is a must in the second year.***
- ***ACLS Certification is a must in the third year.***
- ***PALS Certification is a must in the final year***

Key:

Term=15Weeks

1280 Clinical hospital rotation per Academic year

1920 Clinical hospital rotation per internship year

ADMISSION AND GRADUATION

According to rules and regulation of UQU :

- The students must hold a High school certificate or equivalent that is acquired from Saudi Arabia or any recognized school abroad, with a general rate not less than 90%.
- The specialized subject (chemistry, physics, biology and English Language) rate has to be not less than 90%.
- High school certificate must be acquired within two years, and the UQU has the right to exclude from this condition those hold the degree but not exceeding five years if the student provides a satisfactory reasons.
- Good reputation.
- To be physically fit.
- Must complete all requirements that are suggested and accepted by the university panel.

ATTENDANCE AND COMPLETION REQUIREMENTS

A student total marks in a given course is the summation of his/her marks in the final written exam, final lab / practical / clinical exam, final oral exam, in addition to the marks of the quizzes and project presentation, class activities and periodical examinations.

To be considered pass, the student is required to get a minimum of 60% of the total marks of the course.

Number of Program Students

Year	No of Students
2nd	40
3rd	4
4th	34
Internship	20