

## Program Courses Description

LEVEL	Course Code	Course Title	Course Description
Level 3	ANS 221-3	Anaesthesia laboratory 1	A state-of-the-art laboratory that will prepare the student for the usage and complete understanding of anaesthesia workstation and practice of anaesthesia. Laboratory experiments will develop the student's understanding of anaesthesia delivery systems, various types of breathing circuits, and fresh gas flow effect.
	TERM 220-1	Medical terminology	This course demonstrates the ability to analyze and predict the probable meaning of English medical terms and demonstrates the ability to read and create reports utilizing standard English medical terminology.
	PHYS 202-2	Physiology for Anaesthesia-1	This foundational course explores the essential physiological processes that govern human body function. Students will understand the underlying mechanisms of major body systems with special emphasis on the cardiovascular, respiratory, urinary, and nervous systems. This course provides anaesthesia technology students with the physiological basis necessary to understand normal body functions and their alterations during anaesthesia and surgical procedures.

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	ANS 208-2	Introduction to Clinical Anesthesia	This course covers the principles of anesthesia, including local and regional techniques, anesthetic agents, neuromuscular blockers, and opioids. It explores cardiovascular and maternal-fetal physiology, anesthesia records, operating room management, and the history of anesthesia, integrating theory with clinical applications.
	ANAT 201-3	Anatomy for Anesthesia	This comprehensive anatomy course explores the intricate organization of the human body, with special emphasis on neuromuscular, respiratory, and cardiovascular systems. Students will develop a thorough understanding of human anatomy through theoretical knowledge and practical skills
	266HEA-2	Medical Ethics	In this course, the student defines terminology used in ethics of health professions, its concept and principles, realize the great value of adopting Islamic ethics with patient and society, and develop appropriate knowledge, skills and attitude pertaining to the management of different problems encountered the public health specialist, attain the skills and attitude for self-directed life-long learning, critical evaluation and self-assessment.
Level 4	Ans 223-2	Physics for Anesthesia	This course is designed to integrate comprehensive knowledge of biophysics, laws of gases, flow of

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			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, and measurement of pressure.
	Phys 203-2	Physiology – 2	Physiology 2 builds upon the foundational knowledge gained in Physiology 1 to provide a deeper understanding of the regulatory mechanisms and functions that maintain homeostasis in the human body. This course explores advanced physiological concepts including body temperature regulation, fluid and electrolyte balance, endocrine control, neuromuscular transmission, liver function, and acid-base regulation.
	Ans 230-2	Directed Studies in Anesthesia	The course explains the approach to critically ill patients in intensive care units to improve the quality of care and address their legal issues. It also lets the students get oriented with different patient management challenges in different ICU situations.
	ANS 204-3	Clinical Anaesthesia-1	Developmental skills and foundations of the clinical practice of anaesthesia gained through providing students with the principles of anaesthesia practices which are involved in this course.

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			This course contains preoperative evaluation and assessments, perioperative documentation, general anaesthesia techniques, and medications.
	ANS 222-3	Anaesthesia Laboratory 2	The course contains an emphasized study of accessory equipment besides anaesthesia machines and breathing systems, ventilators, and circle systems. The students are imparted knowledge about face masks and airways, laryngoscopes, tracheal tubes, lung isolation devices and associated equipment to manage difficult airways. Basic anaesthesia gas monitoring, laws governing anaesthetic gases, temperature control equipment, cleaning and sterilization in an operating room.
	PHR 2162	Pharmacology -1	This course is designed to integrate comprehensive knowledge of the basics of anesthetic pharmacology and to provide the students with the skills, knowledge, and background necessary to be a professional healthcare provider in dealing with therapeutic uses of drugs.
Level 5	PHR317-2	Pharmacology 2	This course is designed to integrate comprehensive knowledge of various drugs used in anaesthesia and to provide the students with the skills, knowledge, and background necessary to be a professional healthcare provider in dealing with

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			anaesthetic drugs. This course describes the study of drugs acting on the cardiovascular system, diuretics, local anaesthetic drugs, muscle relaxants, drugs acting on the gastrointestinal system, and corticosteroids.
	ANS323-3	Principles of Airway Management 1	This foundational course trains the students to master the essential skills of airway management to be used in the field for both trauma and medical patients when the need arises.
	ANS305-3	Clinical Anesthesia-2	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 equipment. Lung isolation devices. Devices managing difficult airways. Gas monitoring, airway volumes, flows and pressure. Temperature control equipment. Regional Anesthesia.
	ANS311-3	Environmental Hygiene & Safety	This comprehensive course explores the critical aspects of operating room design, safety protocols, and sterilization techniques essential for healthcare professionals. Students will develop practical knowledge and skills necessary to maintain a safe, sterile operating environment while understanding the principles behind infection

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			control, equipment management, and risk mitigation in surgical settings.
	ANS309-2	Principles of Anesthesia	This course is designed to integrate comprehensive knowledge of the history of anaesthesia, types of pain and Pain Pathways, principles of anaesthesia and practice to fire and electrical safety, the principle of pharmacology, genomic medicine, and study of the health practitioner hazard and safety.
Level 6	Psych302-1	Psychiatry and Mental Health	This course contains the study of basic psychiatry in relation to anesthesia and provides insight into psychiatric diseases & mental health.
	Ans307-1	Electrocardiograph (ECG)	This course introduces anesthesia technology students to the basics of ECG interpretation, focusing on lead placement, cardiac axis, and identification of common arrhythmias. Emphasis is placed on recognizing ECG changes relevant to anesthesia, including perioperative monitoring and patient safety. The course provides practical insights into integrating ECG findings into anesthesia practice.
	Ans306-3	Clinical Anaesthesia-3	This advanced course builds upon the foundational knowledge established in Clinical Anaesthesia I and II, focusing on comprehensive perioperative management of complex medical conditions. Students will develop proficiency in recognising

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			and managing challenging internal medicine cases requiring specialised anaesthetic approaches.
	Ans310-3	Anaesthesia Principles and Practices 2	This course involves knowledge about the principles and practices of anaesthesia. It also provides information about the conduct of various techniques in anesthesia and impact of different patient positions during surgery and its effect on the physiological functions of the body.
	PHR318-2	Pharmacology - 3	This course designed to integrates comprehensive knowledge of various drugs used in anesthesia and to provide the students with skills, knowledge, and background necessary to be a professional health care provider in dealing with anesthetic drugs.
	Ans 325-3	Patient Monitoring and Instrumentation - 1	This course is designed to integrate comprehensive knowledge of advanced anesthetic monitoring and to provide the students with the skills, knowledge, and background necessary to be a professional healthcare provider in dealing with mandatory monitoring gadgets based on patients need.
	Ans 324-3	Advanced Airway Management	This course is designed to integrate comprehensive knowledge of the advance skills of anaesthetic airway management and to provide the students with the knowledge, and background necessary to be a professional healthcare provider in dealing with situations of difficult airway.

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Level 7	Puh412-3	Medical Statistics	This course aim is to introduce students to principles of applied biostatistics and its applications in different public health fields, to build efficient statistical models, analysis, and interpretation. It also directs students' attention to the importance of scientific research and its application in their future work, and in managing and making decision related to different public health issues. Moreover, this subject develops the skills of the students to use the appropriate hypothesis tests and to appraise and interpret the statistics findings most commonly used in biomedical research.
	Ans407-4	Clinical Anaesthesia-4	This course is designed to integrate comprehensive knowledge of anaesthesia management and practices to provide the students with the skills, knowledge, and background necessary to be professional healthcare providers in dealing with different anaesthetic cases for patients who have coexisting diseases
	Ans409-2	Medical Disease	This course equips future anaesthesia providers with critical thinking skills to create tailored anaesthetic plans for medically complex patients. Students will study the pathophysiology of common diseases that significantly impact



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			anaesthetic care, gaining essential knowledge to administer anaesthesia to patients with concurrent medical conditions safely. Through theoretical lectures, students will develop a comprehensive understanding of how various disease processes affect anaesthetic choices, drug interactions, and patient outcomes. interactions, and patient outcomes.
	Ans431-2	Anaesthesia Review - 1	This anaesthesia review course provides a concise overview of essential topics in preoperative assessment, intraoperative management, postoperative care, and respiratory physiology. The curriculum covers patient preparation, anaesthesia techniques, pulmonary function tests, fluid therapy, postoperative recovery, electrical safety, lung mechanics, gas exchange, and anaesthetic considerations in obesity. Through engaging lectures and case-based discussions, students will enhance their understanding of these critical concepts, enabling them to deliver safe, evidence-based anaesthesia care.
	Ans426-3	Patient Monitoring and Instrumentation - 2	This course is designed to integrate comprehensive knowledge of the basics of anaesthetic monitoring and to provide the students with the skills, knowledge, and background necessary to be

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			professional healthcare providers in dealing with minimum mandatory monitoring gadgets.
	Ans414-2	Practicum Seminar in Anaesthesia Practices	The course comprehensively reviews crucial anaesthesia and intensive care knowledge necessary for anaesthesia technicians. It covers critical topics such as cardiac emergency management (VT, VF, PEA), advanced airway management techniques for shared airway surgeries, nerve stimulation principles (TOF), venous thromboembolism prevention and treatment, specialised anaesthetic approaches (TIVA, TCI, regional anaesthesia), perioperative temperature management, fluid/electrolyte balance, metabolic derangements, nutrition, and defibrillation. The course equips technicians with the knowledge to manage complex perioperative scenarios effectively.
Level 8	Ans432-2	Anaesthesia Review - 2	This course is designed to provide an advanced understanding of anaesthesia considerations for specialized clinical scenarios. This course integrates theoretical knowledge with practical applications, focusing on managing anaesthesia for various respiratory, neurological, obstetric, paediatric, and surgical conditions. Emphasis is placed on patient safety, physiological implications, and anaesthetic

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			techniques tailored to specific patient populations and procedures.
	Ans429-2	Problem-solving and decision-making in anaesthesia	This course provides a concise overview of essential topics in knowledge of physics, gas laws, and their applications in anesthesia, central venous catheter insertion and its applications, Identify how dysfunction in capnogram affects the patient.
	Puh446-2	Research Methodology	This course introduces the fundamentals of research methodology, including study design, data collection, statistical analysis, and data interpretation. The course equips students with research skills necessary to critically evaluate public health literature, formulate research proposals, and conduct studies that contribute to evidence-based public health practice.
	Ans427-4	Essentials of Critical Care Medicine	This course is designed to provide comprehensive knowledge of different diseases encountered in critical care medicine and its supportive therapy. This course also provides students with the skills, knowledge, and background necessary to be a professional healthcare provider in dealing with patients who are critically ill and are admitted to Intensive care units.
	Puh434-1	Health Management	This course provides students with an overview of concepts and issues related to healthcare

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			<p>leadership. It is generally a required course for any subsequent healthcare management courses. Examining management topics and healthcare situations, the student will explore the skills and knowledge needed to succeed in a diverse healthcare environment. Topics include healthcare leadership, organizational design as it relates to the uniqueness of healthcare organizations, managing professionals, and diversity in the workplace.</p>
	Ans405-3	Medical Emergency	<p>This course is designed to integrate comprehensive knowledge of anesthesia management and practices to provide the students with the skills, knowledge, and background necessary to be professional healthcare providers in dealing with different anesthetic cases for patients who have emergencies</p>
	Puh438-2	Quality Management and Development in Healthcare	<p>The Quality Management and Development in Healthcare course is designed to provide healthcare professionals with a comprehensive understanding of the principles, tools, and strategies used to enhance the quality of care and improve patient outcomes. It focuses on the continuous improvement of healthcare services, ensuring that they meet established standards and</p>

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			<p>expectations of both patients and regulatory bodies.</p> <p>This course is essential for healthcare administrators, quality officers, nurses, and any healthcare professionals involved in quality assurance and development.</p>
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