

Course description for Biostatistics

Objectives of the course: - The student will be able to recognize the statistical stages in medical and scientific applications.

1- The educational institution	AL-Ayen Iraqi University
2-Scientific Department/Center	Department of Anesthesia Techniques
3-Name/code of the course	Biostatistics
4- Available forms of attendance	presence
5-Semester/year	semester / second course
6- Number of study hours (total)	30 hours
7- Date this description was prepared	2024
8- Objectives of the course	
a-Knowing the importance of statistics in the field of scientific research as a basis for analysis for health and medical sciences	
b-Methods of positive statistics and probability theory	
c- Probabilistic models and probability distribution	

d- Identify sampling distributions Statistical variables

e-Regression and time series analysis

10-Course outcomes and teaching, learning and evaluation methods

a- Cognitive objectives - Knowing the importance of statistics in the field of scientific research
b- The following skills objectives are specific to the course. The student should be able to understand the importance of statistics in the medical field
Teaching and learning methods
Lectures in the form of PowerPoint, illustrations, and discussion panels
Evaluation methods
Monthly examination
Daily exam + attendance

c- Emotional and moral strength
Teaching and learning methods
d- General and qualifying transferable skills (other skills related to employability and personal development.

Course .11 structure					
method Evaluation	method education	Unit name/or Subject	Learning Outcomes Required	Hours	the week
Quiz Oral and written	Lectures In Power Point format	General terms about anesthesia	Definition of Biostatistics, Some Basic Concepts(Data and Sources of data, Variable s, Population Samples and Methods of data collection)	2	1
=	=	=	Methods of presentation of data ((Introduction ,Or dered Arrays, Frequency distribution , Graphs))	2	2
=	=	=	Descriptive Statistic: Measures of Central Tendency (Arithmetic Mean, Median .Mode) of Ungroup and group data.	2	3
=	=	=	Descriptive Statistic : Measures of Dispersion(Range, Variance, Standard Deviation .Coefficient of Variation , Standard Errs)	2	4
=	=	=	J Percentiles, Quartiles and Interquartile Rang.	2	5
=	=	=	Normal distribution Application s.	2	6
			Moments, Skewness and Kurtosis.	2	7
=	=	=	Elementary Probability Theory.	2	8
=	=	=	Statistical Estimation	2	9

			on Theory (Estima tion of Populati on parameters, by Point and by Interval)		
=	=	=	Test o1 Significant : Degree of freedom, P-Value and level of Significant .Type I and Type I I Errors	2	10
=	=	=	J Different type of I- test	2	11
=	=	=	Chi-Square Significance tests.	2	12
=	=	=	J One way ANOVA test.	2	13
=	=	=	Simple Correlation Coefficients.	2	14
=	=	=	Simple Liner Regression .	2	15
The infrastructure .12					
			1-Required prescribed books		
Lectures in Word and PowerPoint format			2- Main references (source)		
1- Pro1'essor (Dr.)Amjad Daotid Niazi:"Statistical Analysis In Medical Research" 2"" Edition ; March 2004. 2-Wayne W.Daniel: Biostatistics "Basic Concepts and Methodology for the Health Sciences" 9'h Edition ;2010.			ا- Recommended books and references Scientific journals, reports....)		
			ب - المراجع الإلكترونية، مواقع الأنترنت		

13- Course development plan
A feedback study of students'
observations about classroom
vocabulary

Course description of pharmacology

General objective:

To familiarize the student with medications and emphasize the medications used in anesthesia

Special objectives

- At the end of the year, the student will be able to:
- Identify the basics of how the drug works, how it affects the body, and how the body is affected by it
- Distinguish the medications used for each of the body's systems, such as the circulatory and respiratory systems
- Knowledge of the medications used in general and spinal anesthesia .

1. Educational institution	Al-Ain University of Iraq / College of Health and Medical Technologies
2. Scientific department/center	Department of Anesthesia Techniques
3. Course name/code	Pharmacology
4. Available forms of attendance	Weekly (theoretical - practical)
5. Semester/year	Second year \ second Semester
6. Number of study hours (total)	60 hours
7. Date this description was prepared	2023
8. Course objectives	
	1-The importance of pharmacology on the human body and the function of each organ of the body
	2-The most important terms related to pharmacology
	3- How the drug works on the vascular system and the central nervous system
	4-Learn how anesthetic and intensive care medications work
	5-Knowing how to administer the medicine and the methods of administering it
	6-Knowing the appropriate dose according to body weight
	7-Learn about the metabolism of drugs and how to excrete toxins from the body

9 -Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives

- 1- Knows pharmacokinetics and drug kinetics
- 2- Understands anesthesia and intensive care medications
- 3- Explains how the medications used before anesthesia work
- 4- Evaluate how to distinguish between healthy medicine and toxic medicine
- 5- Explains how to give medications
- 6- Understands how the drug works, metabolizes the drug, and excretes the drug from the body

B - The skills objectives of the course

- 1- Gives anesthesia and intensive care medications
- 2- Prepares anesthesia and intensive care medications
- 3- Gives intravenous solutions

Teaching and learning methods

- 1- The lecture
- 2- Practical laboratory application
- 3- Seminars
- 4- Educational films
- 5- Research project
- 6- Blackboard
- 7- Learning

Evaluation methods

- 1- Oral exams
- 2- Written tests
- 3- Daily evaluation
- 4- Quarterly exams
- 5- Final exams
- 6- Reports
- 7- Practical tests

C- Emotional and value goals

- C1- Cooperating with his colleagues in understanding any topic
- C2- He loves the lesson and regularly attends the pharmacology class
- C3- It interacts with pharmaceutical substances
- C4- He refrains from interrupting his colleagues during the discussion of any topic

Teaching and learning methods

- 1- Field visits to hospitals
- 2- Showing educational films
- 3- Summer training

Evaluation methods

- 1- Oral exams
- 2- Written tests
- 3- Practical practices and performing experiments

D - Transferable general and qualifying skills (other skills related to employability and personal development.)

D1- Medicines are used in laboratory experiments to determine their effectiveness and side effects

D2- Explains the laboratory rat to learn how heart muscle strengthening drugs work

D3- Examines the urine sample to find out how the drug is excreted through the urine

D4- Measures the appropriate dose for the anesthesia process according to the body weight of laboratory animals

A- Course structure

Evaluation method	Teaching method	Name of the unit/topic	Hours	Week
Daily evaluation	a lecture	Drug action of nervous system. General aspects of neuropharmacology.	4	الاول
Semester exam	Data show	Skeletal muscle relaxants.	٤	الثاني
final exam	practical application	Local anaesthetics.		الثالث
Reports	Seminar	General anaesthetics.		الرابع
practical test	the blackboard	Hypnotic and sedative drugs		الخامس
=	=	Hypnotic and sedative drugs		السادس
		Antipsychotic and anti anxiety drugs.	4	السابع
		Antiparkinson's drugs.		الثامن
		Antiepileptic drugs.		التاسع العاشر
		Narcotic (Opioid), analgesic.	4	الحادي عشر
		Autacoid drug.	4	الثاني عشر
		Central nervous system stimulants.		الثالث عشر
		Drug interactions.		الرابع عشر
		Antiseptics and disinfectants.		الخامس عشر

-Virtual library
-Arab Medical Library
- Electronic library

Electronic references, Internet sites

10- Infrastructure	
1- Required prescribed books	NO
2- For main reference (sources)	Educational bag
3- Recommended books and references (scientific journals, reports,...)	Scientific journals - reports

11- Course development plan
Benefiting from the experiences of educational institutions - Reviewing the relevant authorities and getting their opinions on the curriculum to identify the strengths and weaknesses and develop successful solutions for them.

Course description for the course Foundations of Anesthesia Equipment Techniques (2)

Course description:

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description

1. Educational institution, Al-Ain University, Iraq / College of Health and Medical Technologies	1. Educational institution, Al-Ain University, Iraq / College of Health and Medical Technologies
2. Scientific Department/Center, Department of Anesthesia Techniques	2. Scientific Department/Center, Department of Anesthesia Techniques
3. Name/code of the course: Foundations of anesthesia devices (1)	3. Name/code of the course: Foundations of anesthesia devices (1)
4. Available forms of attendance weekly (theoretical + practical)	4. Available forms of attendance weekly (theoretical + practical)
5. Semester/Year Semester	5. Semester/Year Semester
6. The total number of study hours is 90 hours	6. The total number of study hours is 90 hours
7. The date this description was prepared is 2023	7. The date this description was prepared is 2023
8. Course objectives	
The student will be able to enumerate and use the anesthesia equipment used in the operating room and perform necessary maintenance on it	

10. Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives The student must be able to: A1- Defines and names the anesthesia and intensive care equipment used A2- Understands how anesthesia machines work A3- Lists the most important malfunctions expected in anesthesia machines A4- Explains how to maintain anesthesia machines
B - The skills objectives of the course. The student must be able to: B1 - Prepare the equipment and equipment necessary for the anesthesia procedure B2- Sterilizes the equipment and tools he needs in his work B3- Uses and operates anesthesia equipment efficiently B4- Maintains devices and equipment
Teaching and learning methods
1- Lecture method 2- Laboratories 3- Seminars 4- Educational bag 5- Self-learning method 6- E-learning - Systematic + summer training⁷
Evaluation methods
Daily, semester, and final tests, including: 1- Oral exams 2- Theoretical tests 3- Practical tests 4- Daily evaluation 5- Reports and studies

C- Emotional and value goals

The student must be able to:

C1- He loves his work and listens to the teacher's explanation

A2- He ensures the safety of patients and uses devices and equipment accurately

C3- He coordinates his work according to priorities

C4- He adjusts plans and finds solutions when some emergency problem occurs at work

C5- Appreciate the impact of science and scientists on life.

Teaching and learning methods

Dialogue, discussion, field visits, project, methodological training in hospitals

Evaluation methods

1- Questionnaire 2- Interview 3- Gradual ladder 4- Reports and studies

D - Transferable general and qualifying skills (other skills related to employability and personal development).

D1- Encouraging the student to continue learning and develop his mental and skill capabilities

D2- Encouraging the student to love work and be dedicated to finding job opportunities and serving others

D3- Student development through post-graduation training courses

D4- Follow up on graduates through continuous communication to find out their strengths or weaknesses

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Evaluation method	Teaching method	/ Name of unit\ or subject	Required Learning Outcomes	Hours	Week
- Oral 1 exams 2- Theoretical tests 3- Practical tests 4- daily Evaluation	Lectures1 2- Laboratorie s 3- Systematic training 4- Showing movies 5- Seminars	Flowmeter and flow control (needle) valves Atmospheric pollution, measurement and control of pollution, scavenging system	Understands vocabulary Study in detail	5 theore + tical 4 practi (cal	1 st
=	=	Vaporizer: law of vaporization, vaporizing system, type of vaporizer Factor affecting vaporizer performance, calibration of vaporizer, filling of vaporizer	=	6	2 nd & 3 th
=	=	The supply of anaesthetic gases, cylinders, oxygen concentrator Medical gas services, bulk storage, and supply of gases, piped medical vacuum, electrical supply Distribution of pipework, terminal outlet Flexible pipeline, test and check for medical gas pipeline	=	6	4 th & 5 th
=	=	Infusion equipment: patient control analgesia, filtration, auto transfusion	=	6	6 th to the 11 th weeks
=	=	Pressure gauge and Reducing valve Cleaning and sterilization: decontamination, disinfection and sterilization	=	6	12 th to the 15 th weeks

11. Infrastructure

Learning package	حقيبة تعليمية	1- Required prescribed books
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Anesthesia equipment, principle and application, Jan Ehrenwerth, MD, 2nd edition 2.
The MGH Textbook of Anesthetic Equipment, Warren S. Sandberg, MD, PhD 2nd
edition

2- Main references
(sources)

A-Recommended
books and references
(scientific journals,
reports,...)

B - Electronic
references, Internet
sites

10. Course development plan

Reviewing the prescribed vocabulary periodically with the field of work, keeping
up with the progress made in anesthesia equipment techniques, and reviewing the
approved academic curricula in universities and reputable educational institutions.

(for the course Foundations of Internal Medicine (1 Course description

Course description

: -goals

.that can affect the body's organs common diseases Introducing the student to all the

:Special Objectives

reflux diseases, their causes and treatment , as well as Identifying diseases of the digestive system the causes and treatment of constipation

Identifying diseases of the renal system, including infections of the urinary and reproductive causes of kidney failure and its systems, their causes, symptoms, and treatment, as well as the .types

Hematology, blood components and blood functions

Causes of anemia, symptoms and treatment

Hemolytic disease , its causes and treatment

Identify the types of diabetes

Its causes and symptoms

And how to diagnose it

Thyroid diseases: hypothyroidism and hypersecretion, their symptoms and causes

Ain University of Iraq / College of Health -Al and Medical Technologies	1. Educational institution
Anesthesia Techniques Department of	2. Scientific department/center
(Foundations of internal medicine (1	3. name/code Course
(theoretical + practical) Weekly	4. Available attendance forms
quarterly	5. Semester/year
hours 90	6. Number of study hours (total)
2024	7. Date this description was prepared
8. Course objectives able to know the general principles of internal medicine and The student will be know important diseases, their causes, and how to prevent them	

10.Course outcomes and teaching, learning and evaluation methods
Cognitive objectives -A principles of internal medicine The student understands the basic -A1 Of Its causes and how to prevent it The student understands diseases -A2

And its treatment which
.The skills objectives of the course -B and how to diagnose it a skill in knowing the causes of disease Acquire - B1 and assisting in their treatment Acquiring skills in preventing diseases -B2 under the supervision of a doctor Gaining skill in distinguishing between internal and surgical diseases -B3
Teaching and learning methods
lecture Method - 1 Laboratories -2 Seminars -3 Educational The bag -4 Self Learning Method -5 learning-E -6
Evaluation methods
And monthly And quarterly Daily Exams
Emotional and value goals -C Strengthening the relationship between the nurse and the patient -C1 well He loves his work and accomplishes his tasks -C2 cooperation with the medical and Documenting the working relationship -C3 staff
Teaching and learning methods
Hospitals in Systematic training , project , Field visits , discussion , Dialogue
Evaluation methods
And studies Reports - 4 Grade Ladder -3 Interview -2 Questionnaire -1
Transferable general and qualifying skills (other skills related to employability -D .(and personal development Training students in hospitals Public and emergency units -D1

students in training courses Involving -D2

up of graduates-Follow -D3

11. Course structure

Evaluation method	Teaching method	Name of the unit/topic. .Theoretical* .Practical**	Required learning outcomes	hours	the week
Tests -1 Oral Tests-2 theory Tests -3 practical Evaluate -4 daily life my	Lectures -1 -2 Laboratories Training -3 systematic Showing -4 movies Seminars -5	Common disease of GIT GERD and constipation	Understand s vocabulary Study in detail	6	1 st & 2 nd
=	=	Diseases of the kidney / introduction major manifestations / investigations. Renal failure and UTI		6	3rd & 4th
=	=	Hematological disorder.introduction Blood component		6	5 th
=	=	Anemia and polycythemia Symptoms causes and treatment		6	6 th
=	=	Diabetes mellitus \ types and symptoms Diagnosis and complications		6	7 th
=	=	Diseases of thyroid gland Hyperthyroidism and hypothyroidism Causes and symptoms		6	8 th
=	=	Disorder of CNS Headache \causes and management		6	10 th
=	=			6	12th & 13th
=	=			6	14th & 15th

12. Infrastructure	
Educational bag	Required prescribed books -1
Oxford hand book of clinical medicine, Davidson 23th edition	(Main references (sources -2
Reports, library	Recommended books and references (...‘scientific journals, reports)
Website	Electronic references, Internet -B sites

13.development plan Course
Adding and updating academic vocabulary to suit the labor market represented by .the Ministry of Health and keeping pace with global scientific developments

Description of the course: Basic Surgery - Second Stage – second Course

Course description

The general aim: for the student to be familiar with all the information that qualifies him to be part of the medical staff in the operating room

1. Educational Institution	Al Ayen University
2. Scientific Department	Department of Anesthesiology
3. Name -code of course	anesthesia
4. available attendance forms	%100
5. year, second course	second Semester
6. The number of study hours (weekly)	28 hours
7. The date this description was prepared	24-3-2024
Course objectives	
Raising scientific competence and expanding the circle of medical awareness of the importance of the close connection between anesthesia and surgery, working in the spirit of a single medical team, and filling the gaps of lack of knowledge for the purpose of reducing medical errors at all stages of patient treatment	

Course outcomes and teaching, learning and evaluation methods	
A- Cognitive objective A1-- The student understands the types of diseases that require surgical intervention and how to choose safe methods of anesthesia and surgery by adopting the least dangerous treatment methods for the patient in proportion to the stage of the disease as well as the lowest economic cost by working with the capabilities available within the health institution A2- The student learns about the limits of his scientific and surgical capabilities and the capabilities of the health institution in which he works and follows the correct and safe methods when referring patients to specialized centers as needed to ensure the patient's safety	
.The skills	Objectives of the course
B1 - The course must be able to achieve the above-mentioned cognitive objectives	
Teaching and learning methods	
Interactive Video	
Evaluation methods	
Conducting monthly exams and periodic questions during lecture, study, and discussion	
C- Emotional and value aim C1- The student is convinced of the importance of the specialization he is studying C2- The teachers' effort in providing the scientific material is appreciated C3- He participates within the student groups in the discussion to solve the medical problems presented within the lecture C4- Clarity in presenting ideas and not hiding information from colleagues and patients, including medical errors, learning from medical errors and developing appropriate plans to prevent them from being repeated. And informing the medical institution when a medical error occurs to develop future plans to ensure the protection of other patients	

Teaching and learning methods
Lecture method, discussion in an interactive and video manner
Evaluation methods
The discussion takes the form of questions that the student answers within the topic of the previous lecture for the purpose of urging students to read the lectures as homework after giving them
D - Transferable general and qualifying skills (other skills related to employability and personal development). D1-. Explaining a medical problem that occurred previously related to the topic of the lecture and ways to address it as one of the ways to attract students' attention to the lesson. D2- Possibility of research and analysis D3- The ability to collect information, analyze it, and summarize its main ideas.

10. Course structure					
Evaluation method	Teaching method	Name of the unit/topic Groups A,B,C,D,E,F A, Evening group+	Required learning outcomes	hours	the week
Quiz, Exam	Diction And the discussion Presenting the problem and solution (by explaining medical problems that occurred at work)	Principle of paediatric surgery		28	1
=	=	Warefar surgery		28	2
=	=	Day case surgery		28	3
=	=	Reaction of body to injury		28	4
=	=	Infection of the joint and bone		28	5

Course development plan.10

: The curriculum development plan is based on the following

- Giving the prescribed scientific material and observing and analyzing the students' results
- Study feedback from students' comments about vocabulary

Subject teacher: Dr. Fadhil Ghadhban

Course Description for Applied Physiology

Course Description

General Objective: At the end of the academic year, the student will be able to understand the functions of the various body systems and how to act in emergency and sick situations and their relationship to anesthesia_

Specific Objectives: The student will be able

- to recognize the importance and function of some vital body systems, such as the respiratory system. And the cardiovascular system and its relationship with the work of anesthesia.
- To be able to know some of the disorders and pathological conditions in these vital organs and their impact on the nature of the work of anesthesia.
- To be able to use devices and tools in the laboratory. To be able to perform various clinical examinations of the body

1-Educational institution	AL- Ayen university / Department of Medical and Health Technologies
1. Scientific department/center.	Department of Anesthesia Techniques
2-Course name/code	Applied Physiology
3-Available forms of attendance.	weekly theoretical (practical)
4- .Semester/year.	semester
5- Number of study hours (total.(	90hours
6-Date this description was prepared.	2023
1. Course Objectives: To gain knowledge in the physiology and anatomy related to anesthesia - To be able to understand how the activities of the heart, circulatory system, and the respiratory system are related • To be able to recognize the influence of cardiac activity, the respiratory system, and the properties of blood vessels in regulating blood pressure 2. Learning outcomes and methods of teaching, learning, and assessment	

10. Course outcomes, teaching and learning methods, and assessment
A- Cognitive objectives: - To acquire knowledge in physiology and anatomy related to anesthesia - To be able to understand how the physiological activities of the body are related to activities (cardiac, circulatory, and respiratory systems) - The ability to recognize the effect of cardiac activity The respiratory system and vascular properties in regulating blood pressure
B - The skills objectives of the course. 1. Read and interpret the electrocardiogram 2. Use a stethoscope to hear the heartbeat sounds and interpret the results obtained 3. Perform a spirometer test, and interpret the observed results
Teaching and learning methods
1- Lecture method 2- Laboratories 3- Seminars 4- Educational bag 5- Self-learning method 6- E-learning
Evaluation methods
Daily, quarterly and monthly examinations
Emotional and value-based goals 1. Working in a team spirit 2. That the student adheres to the ethics of the university institution 3. Receives and accepts knowledge
Teaching and learning
dialogue and discussion, field visits, project, methodological training in hospitals.

Evaluation methods
1-Questionnaire 2 - Interview 3 - Gradual ladder 4 - Reports and studies
D - General and qualifying transferable skills (other skills related to employability and personal development). 1. Conduct research from a wide range of paper and electronic sources. 2. Demonstrate communication skills in a variety of media and formats, such as presentation and report writing skills. 3. Demonstrate the ability to work within a team or independently 4.To manage projects and their own time

11. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / أو الموضوع * النظري. ** العملي.	طريقة التعليم	طريقة التقييم
1	6	Learn the physiology of lung and respiratory system	Lung mechanics (compliance, resistant)	1- محاضرات 2- مختبرات 3- تدريب منهجي 4- عرض افلام 5- سمنارات	1- اختبارات شفوية 2 - اختبارات نظرية 3- اختبارات عملية 4- تقييم يومي
2	6	Learn about the normal perfusion of respiratory tissue and the normal value of oxygen saturation	Ventilation perfusion		
3	6	Learn how to recognize hypoxia cases and apnea and how manage it	Preoxygenation ,apneic oxygenation and diffusion hypoxia	=	=
4	6	Learn the way of gases transportation and the laws control gases transport and solubility of gases	Transport of gases	=	=
5	6	Learn about the general effect of hypoxia and hyperoxia on	Systemic effect of hypoxia and hyperoxia	=	=

			body organs		
=	=	Control of ventilation	Learn how Control of ventilation is orchestrated at different levels of the respiratory system and through the entire life span of the individual	6	6
=	=	Non respiratory function of lung	Learn about the non-respiratory function of lung and the important role of lung in defence mechanisms against infection and foreign bodies and other important functions	6	7
=	=	Preoperative smoking and physiological effects of cessation of smoking	Learn about how the smoking effect on anesthesia during operation	6	8
=	=	Thermoregulatory response to prevent hypothermia and hyperthermia	Learn about how manage and prevent hypo and hyperthermia	6	9
=	=	Heat loss during anesthesia	Learn about prevention of heat loss during anesthesia	6	10
=	=	Body fluids and electrolytes	Learning about the essential electrolytes in the	6	11

			body and the effect of disturbs there value		
=	=	Vomiting and dehydration	Learn about definitions of vomiting and dehydration and how to manage it	6	12
=	=	Acid base balance	Understanding effect of increase and decrease of the acid and base value	6	13
=	=	Cerebral physiology	Explain the physiology of brain and nervous system	6	14
=	=	Physiological difference between child and adult in general	Learn the differences between adult and pediatric in body organs and how this differences effect on organs physiology	6	15

12. infrastcture	
Learning kit	1- prescribed books
Oxford hand book of clinical medicine, sixth edition, Longmore, Murray,2004 2. Harrisons principle of internal medicine 2th edition 2018	2- main references
Reports , library	Recommended books and references, scientific journals and reports(.....
Website	Electronic references, Internet sites

13. Curriculum development plan
Adding and updating academic vocabulary to suit the labor market represented by the Ministry of Health and keeping pace with global scientific developments.

Course Description for Anesthesia Fundamentals 2

Course Description:

General Objective: By the end of the year, the student should be able to:

Identify all anesthesia drugs and their uses.

Be capable of handling some anesthesia and resuscitation equipment.

Perform patient resuscitation.

Demonstrate the ability to manage a patient in case of an emergency.

1-Educational Institution:	University of Al Ain, Iraq.
2-Department/Center:.	Anesthesia Techniques Department
3-Course Name/Code:	Anesthesia Fundamentals 1.
4-Available Attendance Forms:	Weekly (Theoretical + Practical).
5-Semester/Year:	Semester-wise.
6-Total Study Hours:	90
7- Description Preparation Date:	2023
8-Course Objectives:	
1- Graduates should be able to assist anesthesiologists with theoretical and practical knowledge.	
2- Complete knowledge of anesthesia machine maintenance.	
3- Preparation of anesthesia drugs.	

9- Course outputs and methods of teaching, learning and evaluation:

Cognitive Objectives:

A1. Understand clinical anesthesia.

A2. Identify components of anesthesia machines.

A3. Understand anesthesia drugs and required supplies under physician supervision.

A4. Detailed understanding of equipment maintenance related to anesthesia.

B. Skill-based Objectives:

- B1. Prepare equipment used in the operating room and initial resuscitation.
- B2. Prepare anesthesia drugs and required supplies under physician supervision.
- B3. Monitor the patient throughout clinical anesthesia stages.
- B4. Perform maintenance of anesthesia-related equipment.

Teaching and Learning Methods:

Lectures
Practical training
Systematic training
PowerPoint presentations
Presentations

Assessment Methods:

Daily, semester-wise, and yearly examinations.

Emotional and Values Objectives:

- C1. Adhere to utmost care possible within available resources, in accordance with medical contexts approved by the Ministry of Health's legal and regulatory releases.
- C2. Creative skills in maintaining medical devices used in the operating room.
- C3. Skills enabling students to understand anesthesia methods.
- C4. Practical skills enabling students to apply practical aspects.

Teaching and Learning Methods:

Theoretical aspect
Practical aspect
Training aspect
E-learning

Assessment Methods:

Daily exams
Semester exams
Yearly exams
Practical exams

D.General and Transferable Skills (Other Skills Related to Employability and Personal Development):

- D1. Develop skills under physician supervision in practical anesthesia-related tasks, such as

cannula placement, bladder catheterization, manual resuscitation bag usage, and throat mask placement.

D2. Students should understand the importance of anesthesia science and its application in the operating room and recovery room.

D3. Enable students to use anesthesia devices in the operating room.

10- Course structure .					
evaluation method	Teaching method and	Name of unit/or subject. Theoretical. Practical.	Required Learning Outcomes	Hours	Week
Practical exam, theoretical exam, practical card, seminar	Summer methodological training lecture Power point presentation	Drugs used in Premedication	A lecture application is practical	6	1 st
		Laryngospasm and bronchospasm	=	6	2 nd
		Hypoxia and hyperthermia during anesthesia			3 th
		Intravenous fluid			4 th
=	=	Blood and blood products	=	6	5 th & 6 th weeks
=	=	Surgical positions and their complications	=	6	7 th & 8 th weeks
=	=	(CARDIOPULMONARY RESUSCITATION (CPR))	=	6	9 th & 10 th weeks
=	=	Intraoperative patient monitoring	=	6	11 th & 12 th weeks
=	=	Safety measure in operating room Airway fire during anesthesia	=	6	13 th
=	=	Review	=	6	14 th & 15 th weeks

11-Curriculum Development Plan:

Addition of new academic vocabulary not exceeding 10% annually to keep pace with developments in the field of anesthesia, especially regarding anesthesia drugs, equipment, and their advancements.

12-Infrastructure:

	Required Textbooks
Anesthesia / Miller	Main references (sources)
Fundamental of anaesthesia, fourth edition, Ted Lin, Tim Smith, and Colin Pinnock 2. Lecture note on clinical anaesthesia, 2nd edition CARL GWINNUTT, 2004 3. Clinical anesthesiology, fifth edition , Morgan & Mikhail's, 2013 4. Clinical anesthesia, eighth edition, Paul G. Barash, MD et al. 2017	Recommended books and references (scientific journals, reports, etc.)
Internet sites https://www.anesthesiology.pitt.edu/publications/books-and-journal-articles	B - Electronic references, Internet sites...