Medical Doctorate (M.D.) Degree Program and Courses Specifications for Anaesthesia and Post-operative intensive care

(According to currently applied **Credit point** bylaws)

Anesthesia and Post-operative intensive care

Faculty of medicine

Assiut University

2022-2023/2023-2024

M. D. degree of Anesthesia and Post-operative intensive care

A. Basic Information

- **Program Title:** M. D. degree of Anesthesia and Post-operative intensive care
- **Nature of the program:** Single.

- **Responsible Department:** Department of Anesthesia and Post-operative intensive care - Faculty of Medicine- Assiut University.

- **Program Director (Head of the Department):**
  Prof. Hany Ahmed Ibrahim El Morabaa
- **Coordinator (s):**

Principle coordinator: Prof. Zein El Abedeen Zareh Hassan

Assistant coordinator: Prof. Fatma Ahmed Abd El Aal
Dr. Khaled Abdel Baki

- **Internal evaluators:** -Prof : Golnar Fathee-
- **External evaluator:** - Prof: Ibraheem Abass Yousef
- **Date of Approval by the Faculty of Medicine Council of Assiut University:** 23-9-2014
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University:** 27-11-2022
- **Total number of courses**: 5 courses

B. Professional Information

1- Program aims

1/1To enable candidates to master high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Anesthesia and Post-peri-operative medicine, and chronic pain management and enabling the candidates of making appropriate referrals to a sub-specialist

1/2 Provide candidates with fundamental knowledge and skills of intensive care medicine as regards; dealing with critically ill respiratory patients, ICU equipments, techniques, indications, contraindications and training skills of different intensive care techniques.

1/3 To enable candidates to perform high standard scientific medical research and how to proceed with publication in indexed medical journals.

1/4 To enable candidates to describe the basic ethical and medicolegal principles relevant to Anesthesia and Post-operative intensive care .

1/5 To enable candidates to have professional careers as a consultant in Egypt but recognized abroad.

1/6To enable candidates to continue self learning in subspecialties.

1/7 To enable candidates to master different research methodology and do their own.

2-Intended learning outcomes (ILOs) *for the whole program*:

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to Anesthesia and postoperative intensive care as well as the evidence – based application of this knowledge to patient care.
B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Anesthesia and postoperative intensive care.
D. Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Anesthesia and postoperative intensive care.
E. Mention health care system, public health and health policy, issues relevant to Anesthesia and postoperative intensive care and principles and methods of system – based improvement of patient care in common health problems of the field of Anesthesia and postoperative intensive care.

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to the Anesthesia and postoperative intensive care related conditions / problem / topics.
B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Anesthesia and postoperative intensive care.
C. Plan research projects.

D. Write scientific papers.

E. Participate in clinical risk management as a part of clinical governance.

F. Plan for quality improvement in the field of medical education and clinical practice in Anesthesia and postoperative intensive care.

G. Create / innovate plans, systems, and other issues for improvement of performance in his practice.

H. Present and defend his / her data in front of a panel of experts.

I. Formulate management plans and alternative decisions in different situations in the field of Anesthesia and postoperative intensive care.

2/3 Skills

2/3/1 Practical skills (Patient Care)

Students will be able to:

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

p.s. Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.

B. Provide extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Anesthesia and postoperative intensive care.

C. Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of Anesthesia and postoperative intensive care.

E. Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Anesthesia and postoperative intensive care related situations**.**

G. Gather essential and accurate information about patients of the Anesthesia and postoperative intensive care related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the Anesthesia and postoperative intensive care related conditions.

I. Develop and carry out patient management plans for Anesthesia and postoperative intensive care related conditions.

J. Counsel and educate patients and their families about speciality related conditions.

K. Use information technology to support patient care decisions and patient education in all Anesthesia and postoperative intensive care related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for the Anesthesia and postoperative intensive care conditions / area of practices.

M. Provide health care services aimed at preventing the Anesthesia and postoperative intensive care related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in Anesthesia and postoperative intensive care related conditions**.**

O. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

A. Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Anesthesia and postoperative intensive care.
B. Appraise scientific evidence.
C. Continuously improve patient care based on constant self-evaluation and life-long learning.
D. Participate in clinical audit and research projects.
E. Practice skills of evidence-based Medicine (EBM).
F. Educate and evaluate students, residents and other health professionals.
G. Design logbooks.
H. Design clinical guidelines and standard protocols of management.
I. Appraise evidence from scientific studies related to the patients' health problems.
J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
K. Use information technology to manage information, access on-line medical information; for the important topics.

Interpersonal and Communication Skills

L. Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:-

- Present a case.
- Write a consultation note.

- Inform patients of a diagnosis and therapeutic plan completing and maintaining comprehensive.
- Timely and legible medical records.
- Teamwork skills.

M. Create and sustain a therapeutic and ethically sound relationship with patients.
N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
O. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

P. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.
Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to Anesthesia and postoperative intensive care including good administrative and time management.
T. Practice cost-effective health care and resource allocation that does not compromise quality of care.
U. Advocate for quality patient care and assist patients in dealing with system complexities.
V. Design, monitor and evaluate specification of under and post graduate course and programs.
W. Act as a chairman for scientific meetings including time management

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Medical Doctorate (MD) degree in Anaesthesia and postoperative intensive care

Assiut Faculty of Medicine developed MD degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program. These standards were approved by the faculty council on 20/ 3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.

These standards were revised and approved without changes by the Faculty Council on 27-11-2022.

4- Program External References (Benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education).

http://www.acgme.org/acWebsite/navPages/nav_Public.asp

2. American Board of **Anesthesiology** (ABA) **Critical Care** Medicine Recertification program

http://www.theaba.org/Home/examinations_certifications

Comparison between program and external reference

Item	Anesthesia and postoperative intensive care	**American Board** of **Anesthesiology** (ABA) **Critical Care** Medicine Recertification program
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	4 – 6 years	different
Requirement	Different	different
Program structure	Different	different

5- Program Structure

A. Duration of program: 4-6 years
B. Structure of the program:
Total number of credit points: = 420 CP
Master degree: 180 credit point
Didactic #: 37 (23.1%), practical 123 (76.9%), total 160 CP
Thesis and researches: 80 CP (33.3%)

First part
Didactic 10 (100%), practical 0 (0 %), total 10 CP
Second part
Didactic 24, (16.3 %), practical 123 (83.7 %), total 147 CP
Elective courses: 3 credit points
#Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:
Total courses: 160 credit point
Compulsory courses: 157 credit point (98.1%)
Elective courses: 3 credit point (1.9%)

	Credit point	% from total
Basic science courses	10	4.1%
Humanity and social courses	3	1.2%
Speciality courses	147	61.3%
Others (Computer, …)	-	0
Field training	123	51.3%
Thesis	40	16.7%
2 published researches	40	16.7%
Master degree	180	

C- Program Time Table

Duration of program 4 years divided into

- Part 1

Program-related essential courses

Program-related basic science courses

- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining basic science courses after 12 months from applying to the MD degree.

Thesis and 2 published researches

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

- Part 2

Program –related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1st or 2nd parts.

The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

Total degrees 1700 marks.

500 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical/practical and oral exams 30% - 6

Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Credit points		
		didactic #	training	total
First Part				
Basic science courses **(10 CP)** Course 1: Medical Statistics Course 2: Research Methodology Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)	**FAC309A** **FAC309B** **FAC310C** **AIP329A**	1 1 1 7		1 1 1 7
Elective courses*	3 CP			
- Elective course 1 - Elective course 2		1.5 1.5		1.5 1.5
Thesis	40 CP			
Published researches**	40 CP			
Second Part	Speciality courses 24 CP Speciality Clinical Work (log Book) 123 CP			
Speciality Courses **5)Course 5 Anesthesia and intensive care 2** **1- Unit (Module) 1 Anesthesia and peri-operative medicine** **2- Unit (Module) 2 intensive care (Postoperative , general ,trauma)** **3- Unit (Module) 3 Chronic pain management**	**AIP329B**	24		24
Clinical Work (123 CP)	**AIP329B**	123		123

#Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management

Two of the above mentioned courses are prerequisites for fulfillment of the degree.

3. Thesis / Researches:

40 CP are appointed to the completion and acceptance of the thesis.

**Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

Anesthesia and intensive care 2

Units' Titles' list	*% from total*	*Level (Year)*	*Core Credit points*		
			Didactic	*training*	*Total*
1) Unit 1 "Anesthesia and perioperative medicine"	80%	1,2,3&4	19.2	98.4	117.6
2) Unit 2 "Critical Care Medicine"	15%	2,3&4	3.6	18.45	22.05
3) Unit 3 " Chronic Pain Management"	5%	3&4	1.2	6.15	7.35
Total No. of Units:	3	1,2,3&4	24	123	147

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module

Annex 6 II: Program Matrix

7-Admission requirements

- **Admission Requirements (prerequisites) if any :**
  - **I. General Requirements:**
    - Master degree in the in the Anesthesia and postoperative intensive care
  - **II. Specific Requirements:**
    - **Fluent in English (study language)**

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working assistant lecture 3 week leave prior to first/ second part exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.

- Examination of the second part cannot be set before 4 years from registering to the degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- The minimum duration of the program is 4 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and speciality courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MD thesis.
4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

9-Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: **Structured essay questions** **Objective questions** **MCQ** **Problem solving**	**K & I**
Structured oral	**K ,I &G skills**
Logbook assessment	**All**
Research assignment	**I &G skills**

Weighting of assessments:

Courses		Degrees			
Courses	Course code	Written Exam	Oral *	Practical / Clinical Exam	Total
First Part					
Basic science courses:					
Medical Statistics	FAC309A	35	15		50
Research Methodology	FAC309B	35	15		50
Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15		50
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)	AIP329B	150	200		350
Total of the first part		230	70		500
Second Part					
	Course code	written	Oral *	Practical / Clinical Exam	total
Speciality Courses					
Course 5 Anesthesia and Intensive care 2 Paper 1 Paper 2 Paper 3 Paper 4	AIP329B	 120 120 120 120	360	360	1200
Total of The second part		480	360	360	1200
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

* Anesthesia and intensive care 2

Units' **(Module)**Titles' list	% from total Marks	Degrees			
		Written Exam	Oral Exam	Practical / Clinical Exam	Total
1) Unit 1 " Anesthesia and Intensive care " 2) Unit 2 "**Cri**tical Care Medicine" 3) Unit 3 " Chronic Pain Management"	**80%** **15%** **5%**	384 72 24	288 54 18	288 54 18	960 180 6
Total No. of Units (Modules):	**3**	480	360	360	1200

* 25% of the oral exam for assessment of logbook

Total degree 1900

500 marks for first part

1200 for second part

Written exam 40% (480 marks)

Clinical /practical and oral exams 60% (720 marks)

Examination system:

➢ First part:

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 3 hours in Anesthesia and Intensive care 1 (Pharmacology& Physiology & Physics and Clinical Measurements) + oral exam

➢ Second part:

- Written exam four papers 3 hours for each in Anesthesia and Intensive care 2 + Oral exam+ Clinical/Practical exam

➢ Elective courses

- Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
- Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

10-Program evaluation

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	1
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	# #
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:	Prof. Zein El Abedeen Zareh Hassan		
Head of the Responsible Department (Program Academic Director):	- Prof. Hany Ahmed Ibrahim El Morabaa		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

First Part

1) **Course 1: Medical statistics.**
2) **Course 2: Research methodology**
3) **Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research**
4) **Course 4 : Anesthesia and Intensive Care 1 (Pharmacology& Physiology & Physics and Clinical Measurements)**

Course 1: Medical statistics

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Medical statistics**
- **Course code: FAC309A**
- **Specialty: offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course:** Pubic Health and Community Medicine
- **Coordinator (s):**
  - Course coordinator: Prof. Farag Mohammed Moftah
  - Assistant coordinator (s): Prof. Medhat Araby Khalil Saleh
- Date last reviewed: January -2022
- **Requirements (pre-requisites) if any:**
  - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

Enable gradute students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

3. Intended learning outcomes (ILOs):To be able to use statistical principals to manage data

A knowledge and understanding

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. List the types of variables	Lecture and discussion	Written examination
B. Identify the methods of data collection	Lecture and discussion	Written examination
C. Describe the different sampling strategies	Lecture and discussion	Written examination
D. Identify types of tabular and graphic presentation of data	Lecture and discussion	Written examination
E. Identify measures of central tendency and dispersion	Lecture and discussion	Written examination
F. Identify the characters of normal distribution curve.	Lecture and discussion	Written examination
G. Detect the difference between parametric and non-parametric tests	Lecture and discussion	Written examination
H. Identify the concepts of correlation and regression	Lecture and discussion	Written examination

B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the normal curves.	Lecture& Discussions	Written examination
B. Describe and summarize data	Lecture& Discussions	Written examination
C. Select the proper test of significance	Lecture& Discussions	Written examination
D. Interpret the proper test of significance	Lecture& Discussions	Written examination
E. Describe the difference between parametric and non-parametric tests	Lecture& Discussions	Written examination

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skills C**	**General Skills D**
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	C	-	-	A&B
Methodology of data collection	B	-	-	A&B
Type of variables	A	-	-	A&B
Proportion test& Chi-square test	E,F	C&D	-	A&B
Student T test& Paired T test	E,F	C&D	F	A&B
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor analysis	E,F	C&D	-	A&B
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of data	A	A-D	A-C	A&B
Transforming of variables	A	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation of results	E,F	C&D	F	A&B
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic Regression	E,F	C&D	F	A&B

5. Course Methods of teaching/learning

1. Lectures
2. Assignments
3. Discussions
4. Exercises
5. Tutorial on SPSS v.16

6. Course assessment methods:

i. Assessment tools:

1. Attendance and active participation
2. Assignment
3. Practical SPSS examination
4. Written exam

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Medical Statistics: Book by Ramakrishna HK 2016
- Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
- Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750

- Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 - Mathematics - 584 pages.

Iii- Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: https://doi.org/10.1142/10259 | September 2017.Pages: 852
- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). EvidenceEvidence Based Medicine How to practice and teach EBM.
- Discovering Statistics Using IBM SPSS Book by Andy Field, 2013.

iii. Periodicals, Web sites, etc

iv. **Periodicals , etc** Statistics in Medicine - Wiley Online Library
v. **Web sites** https://www.phc.ox.ac.uk/research/medical-statistics

8. Signatures

Course Coordinator: - Farag Mohammed Moftah	**Head of the Department:** - Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022
Associated Coordinator: Prof. Medhat Araby Khalil Saleh	
Date: 10-1-2022	

Course 2: Research Methodology

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2021-2022

1. Course data

- **Course Title: Research methodology**
- **Course code: FAC309B**
- **Specialty: Offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Department of public health**
- **Coordinator (s):**
  - **Course coordinator:** Prof. Mahmoud Attia

  Assistant coordinator (s): Prof. Ekram Mohamed
  - Prof. Medhat Araby Khalil
- **Date last reviewed:** January 2022
- **Requirements (prerequisites) if any:**
  - **Completed Master degree in any of the academic or clinical departments of Medicine.**

2. Course Aims

To provide graduate students with the skills of:

- planning and implementing sound research
- writing a scientific research proposal

3. Intended learning outcomes (ILOs)

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
B. Identify sources and types of bias in research.	Lecture and discussion Practical sessions	Written exam Log book assignments Practical exam
C. Identify methods of data collection.	Lecture and discussion Practical sessions	Written exam Log book assignments
D. Select and design valid measurement tools for research.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
E. Explain ethical issues in conducting research on human subjects.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
F. List the steps involved in proposal writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam

G. Identify a research problem within a conceptual framework.	Lecture Discussion	Written exam Log book assignments Practical exam
H. Use the web sources to do a literature search	Practical tutorial on web	Log book assignment
I. Describe the rules of authorship in scientific writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
J. Select the appropriate study design for the research question.	Lecture Practical sessions	Written exam Practical exam
K. Minimize bias in designing research.	Lecture	Written exam
L. Screening & theoretical background	Lectures	Written exam Practical exam
M. Mention the basic ethics for conducting a research and medicolegal principles relevant to data confidentiality.	lectures seminar	Written exam Practical exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Apply basic science & knowledge for appraising scientific literature.	Discussions &seminars	Written exam Practical exam
B- Design research and present study data, in seminars.	lecture seminar	log book assignments
C- Design suitable epidemiological study.	lecture seminar	log book assignments
D- Design strategies for resolving ethical concerns in research, law, and regulations.	lecture Workshops	Written exam log book assignments
E- Apply coherently synthesize ideas and integrate lateral and vertical thinking.	lecture Workshops	log book assignments
F- Evaluate screening tests and interpreting their uses in different population.	lecture	Written exam Practical exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Conduct epidemiological studies, screening and surveys.	lectures seminar	written exam log book assignments
B- Identify steps required in fielding the study.	Lecture	Assignments Written exam
C- Managing data collection team.	lectures seminar	log book assignments
D- Identify steps required for calculation sensitivity, specificity, positive predictive value, negative predictive value, accuracy of a screening test.	Lecture Practical sessions	Assignments Written exam Practical exam
E- Be able to define and apply the epidemiologic criteria of causality and be able to distinguish between a measure of association and evidence of causality.	Lecture Practical sessions	Assignments Written exam Practical exam
F- Synthesize information from multiple sources for research writing and the ability to perform paper critique .	Lecture Practical sessions	Assignments Written exam Practical exam
G- Identify bias and confounding in epidemiological study designs, their types and ways to control them in various types of biases.	Lecture Practical sessions	Assignments Written exam Practical exam

D General skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Scientific paper and proposal writing skills: be able to write an introduction, objectives and the methodological section.	Tutorial	Written examination
B- Learn authorship ethical rules.	Tutorial	Written examination
C- Perform practice-based improvement activities using a systematic methodology (audit, logbook, critical appraisal)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
D- Appraise evidence from scientific studies(journal club)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
E- Conduct epidemiological studies, screening and surveys.	- Lectures -Practical sessions - Discussion - Readings	attendance and participation
F- Facilitate training of junior students and other health care professionals in different screening activities.	Field work Participation in projects	attendance and participation

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
G- Maintain ethically sound relationship with community members.	- Lectures -Practical sessions - Discussion - Readings	Written exams
H- Provide information using effective nonverbal, explanatory, questioning, and writing skills.	- Lectures -Practical sessions - Discussion - Readings	Written exams Practical exams
I- Present results of researches in seminars.	- Lectures -Practical sessions - Discussion - Readings	Log book assignments

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
J- Demonstrate respect, compassion, and integrity to the needs of society.	- Lectures - Discussion - Readings	Written exams
K- Manage potential conflicts of interest encountered by practitioners, researchers, and organizations.	- Lectures - Discussion - Readings	Written exams
L- Design strategies for resolving ethical concerns in research, law, and regulations.	Lectures - Discussion - Readings	Written exams Practical exams
M- Demonstrate ways to control for confounding in the analysis phase of a study	Lectures - Discussion - Readings	Written exams Practical exams
N- Demonstrate a commitment to ethical principles including confidentiality of participants' information and informed consent.	Lectures - Discussion - Readings	Written exams
O- Assess ethical considerations in developing communications and promotional initiatives.	- Lectures - Discussion - Readings	Written exams

4. Course contents (topic s/modules/rotation

Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Over view on research conduction and research ethics	A&E	A-D	A-C	C-G, I,L&M-O
How to write a research proposal	F,I	E	F	A-C&H
Observational study design	A& D	B & C	D	E & F
Experimental study design	A& D	B & C	B	E & F
Evaluation of diagnostic tests (Screening)	L	A	B& E	F
Systematic reviews and meta analysis	G, H & M	E& F	F	C, D
Confounding, bias & effect modification	B & K	D	E & G	M

5. Course Methods of teaching/learning:

1. Lectures
2. Assignments
3. Discussion
4. Exercises

6. Course assessment methods:

i. Assessment tools:

1. Attendance and participation
2. Log book assignments
3. Written examination
4. Practical examination

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th Edition by John W. CreswellSAGE Publications, Inc; 4th edition (January 1, 2014)
- Research methodology: A step – by – step Guide for Beginners. Ranjit Kumar, 2020. Second edition https://books.google.com.eg/books?
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 - Medical - 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition , Academic Press, Nov 5, 2007 - Science - 512 pages

iv. Recommended books

- Research Methods in Education 7th Edition, by Louis Cohen, Lawrence Manion, Keith Morrison Publisher: Routledge; (April 22, 2011) www.routledge.com/textbooks/cohen7e.
- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books

- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson , William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator: Prof.Mahmoud Attia	**Head of the Department:** Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022

Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Name of department:
Forensic medicine and clinical toxicology
Faculty of medicine
Assiut University
2016-2017

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Speciality: Anesthesia (1st part).**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**
- **Coordinator (s):**
  - **Course coordinator:** Prof.Wafaa Mohamed Abdel Moneium
  - **Assistant coordinator (Ghada Omran)**

- **Date last reviewed: 9– 2017.**

- **Requirements (prerequisites) if any :**
  - **Completed Master degree.**

2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of Anesthesia

3. Intended learning outcomes (ILOs):

A. knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention principals of Taking consent.	Lecture and discussion	Oral &Written exam
B. Mention principals of Writing a death certificate	Lecture and discussion	Oral &Written exam
C. Mention principals of diagnosing death.	Lecture and discussion	Oral &Written exam
D. Mention principals of writing toxicological reports.	Lecture and discussion	Oral &Written exam
E. Explain principals of medical reports.	Lecture and discussion	Oral &Written exam
F. List indications and principals of induced emesis, gastric lavage and samples collection.	Lecture and discussion	Oral &Written exam

B. Intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present case , seminars in death certificate	Lecture and discussion	Discussion and practical
B. Present case, seminars in toxicological cases	Lecture and discussion	Discussion and practical

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Discussion
B. Prepare and write consent.	Lecture and discussion	Discussion
C. Identify medical responsibilities.	Lecture and discussion	Discussion
D. Write death certificate.	Lecture and discussion	Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Discussion and active participation
F. Write medical and toxicological reports	Lecture and discussion	Discussion and active participation
G. Diagnose causes of death and death associated with surgery and anesthesia.	Lecture and discussion	Discussion and active participation
H. Perform gastric lavage, induce emesis, and obtain samples.		

D. General skills

Practice-Based Learning and Improvement

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present a case.	Lecture and discussion	Global rating logbook
B. Write a consultation note	Lecture and discussion	Global rating logbook
C. Inform patients and maintaining comprehensive.	Lecture and discussion	Global rating logbook
D. Make timely and legible medical records	Lecture and discussion	Global rating logbook
E. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual** B	**Practical skills** C	**General Skills** D
1. Death and death certificate.	B,C	A	D,E	A
2. Death associated with surgical anesthesia			G	A
3. Toxicological reports	D,F	B	F	A,D,E
4. Ethics in research.	A		A	
5. Medical ethics.	E		A,B,C	B,C,E

5. Course Methods of teaching/learning:

1. Lectures.
2. Discussions.
3. Exercises.

6. Course assessment methods:

i. Assessment tools:

1. Written examination.
2. Attendance and active participation.
3. Oral examination.

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.

ii. Essential books

- Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press
- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.
- Medical Ethics Manual. World medical association. Third edition 2015.

Medical ethics and law. Dominic Wilkinson, 3rd edition 2019.

iii. Recommended books

- Biswas Gautam (2021): Review of Forensic Medicine & Toxicology. 5th ed. Jaypee Brothers Medical Pub.

iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at www.sciencedirect.com. As :

Forensic Science International Journal.

Toxicology Letter.

v. others

8. Signatures

- **Course Coordinator: Prof. Wafaa Mohamed Abdel Moneium**	- **Head of the Department: Prof. Randa Hussein Abde lhady**
Date: 17-9-2017	**Date: 17-9-2017**

Course 4 Anesthesia and Intensive Care 1 (Pharmacology& Physiology & Physics and Clinical Measurements)

Name of department:

Anesthesia and postoperative intensive care department

Faculty of medicine

Assiut University

2022-2023

1. Course data

- **Course Title:** Anesthesia and intensive care 1 **Pharmacology& Physiology & Physics and Clinical Measurements**
- **Course code: AIP329A**
- **Speciality** Anesthesia and postoperative intensive care
- **Number of credit points:** 7 credit point for didactic (100%)
- **Department (s) delivering the course:** Department of Anesthesia and postoperative intensive care - Faculty of Medicine- Assiut- EGYPT
- **Coordinator (s):**

Principle coordinator: Prof. Zein El Abedeen Zareh Hassan

Assistant coordinator: Prof. Fatma Ahmed Abd El Aal

Dr. Khaled Abdel Baky

- **Date last reviewed: September 2022**
- **Requirements (prerequisites) if any :**
  - None
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

1. To acquire the Physiological and Pharmacological Background and physical facts necessary Anesthesia and postoperative intensive care in clinical reasoning, diagnosis and management of diseases which may affects anesthesia and diseases of critical ill patients.

Course 4 Unit (Module) 1 Pharmacology

A. Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Principles of pharmacology of: - Introduction to Pharmacology and Drug Doses - Pharmokinetics and Anesthesia - Pharmacodynamics and Receptor Physiology - drug-drug interaction related to anesthesia - The Pharmacology of the Autonomic Nervous System	-Lectures	-Written and oral examination - Log book
B. Describe pharmacologic details of details of: - Intravenous Drugs used for the Induction of Anesthesia - Pharmacology of Inhalational Anesthetics - Pharmacology of Neuromuscular Blocking Drugs and Anticholinesterases - Local Anesthetic Pharmacology		

B. Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Pharmacological) supportive sciences which are appropriate to Anesthesia and postoperative intensive care related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Anesthesia and postoperative intensive care**.**		

C. Practical skills

Practical: 0 Credit point

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book Oral exam

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	Oral exam -Log book -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	- Observation and supervision Written & oral communication	Logbook Oral Exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

Course 4 Unit (Module) 2 Physiology

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Physiologic Principles of 1. Cardiovascular Physiology 2. Aspects of Myocardial Physiology 3. Cerebral Blood Flow and Intracranial Pressure 4. The Autonomic Nervous System 5. Basic Physiology 6. The Physiology of Neuromuscular Junction 7. Respiratory Physiology 8. Renal physiology 9. Hepatic physiology 10. Endocrine Physiology 11. Physiology of Pain	-Lectures	-Written and oral examination - Log book
B. Describe Physiologic details of: 1. Cardiovascular Physiology 2. Aspects of Myocardial Physiology 3. Body Fluid Compartments, Sodium and Potassium physiology 4. Physiological Changes Associated with Pregnancy, pediatric and elderly patients.		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (physiological) supportive sciences which are appropriate to Anesthesia and postoperative intensive care related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Anesthesia and postoperative intensive care**.**		

C- Practical skills

Practical 0 Credit point

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars -Lectures	-Oral exam -Log book -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	- Observation and supervision Written & oral communication	Logbook Oral Exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

Course 4 Unit (Module) 3 Physics and clinical measurements

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Mention Principles of physics of 1. SI Units 2. Electricity and Magnetism 3. The Physics of Flow 4. Pressure and Blood Pressure Monitoring 5. Biological Signals and their Measurement 6. Practical Applications of Pulse Oximetry 7. Respiratory Gas Analysis 8. Vaporizers 9. Anesthetic Breathing Systems 10. Anesthetic Gas Scavenging 11. Gases and Vapors 12. Humidification 13. Heat Production and Loss 14. Fires and Explosions in the Operating Room	-Lectures	-Written and oral examination - Log book

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Physics and clinical measurements) supportive sciences which are appropriate to Anesthesia and postoperative intensive care related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Anesthesia and postoperative intensive care**.**		

C-Practical skills

Practical: 0 Credit point

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Clinical round -Seminars -Lectures	- Oral exam -Log book -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	- Observation and supervision Written & oral communication	- Oral exam -Log book

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	intellectual B	Practical skills C	General skills D
Unit 1 Pharmacology				
- Introduction to Pharmacology and Drug Doses	A	A.B	A.B	A-D
- Pharmacokinetics and Anesthesia	A	A.B	A.B	A-D
- Pharmacodynamics and Receptor Physiology	A	A.B	A.B	A-D
- drug-drug interaction related to anesthesia	A	A.B	A.B	A-D
The Pharmacology of the Autonomic Nervous System	A	A.B	A.B	A-D
- Intravenous Drugs used for the Induction of Anesthesia	B	A.B	A.B	A-D
- Pharmacology of Inhalational Anesthetics	B	A.B	A.B	A-D
- Pharmacology of Neuromuscular Blocking Drugs and Anticholinesterases	B	A.B	A.B	A-D
Local Anesthetic Pharmacology	B	A.B	A.B	A-D
Unit 2 Physiology				
Cardiovascular Physiology	A	A,B	-	A-D
Aspects of Myocardial Physiology	A	A,B	-	A-D
Cerebral Blood Flow and	A	A,B	-	A-D

Intracranial Pressure				
The Autonomic Nervous System	A	A,B	-	A-D
Basic Physiology	A	A,B	-	A-D
The Physiology of Neuromuscular Junction	A	A,B	-	A-D
Respiratory Physiology	A	A,B	-	A-D
Renal physiology	A	A,B	-	A-D
Hepatic physiology	A	A,B	-	A-D
Endocrine Physiology	A	A,B	-	A-D
Physiology of Pain	A	A,B	-	A-D
Cardiovascular Physiology .5	A	A,B	-	A-D
Aspects of Myocardial .6 Physiology	B	A,B	-	A-D
Body Fluid Compartments, .7 Sodium and Potassium physiology	B	A,B	-	A-D
Physiological Changes Associated with Pregnancy, pediatric and elderly patients	B	A,B	-	A-D
Unit 3 Physics and Clinical measurements				
SI Units	A	A.B	-	A-D
Electricity and Magnetism	A	A.B	-	A-D
The Physics of Flow	A	A.B	-	A-D
Pressure and Blood Pressure Monitoring	A	A.B	-	A-D
Biological Signals and their Measurement	A	A.B	-	A-D
Practical Applications of Pulse Oximetry	A	A.B	-	A-D
Respiratory Gas Analysis	A	A.B	-	A-D
Vaporizers	A	A.B	-	A-D

Anesthetic Breathing Systems	A	A.B	-	A-D
Anesthetic Gas Scavenging	A	A.B	-	A-D
Gases and Vapors	A	A.B	-	A-D
Humidification	A	A.B	-	A-D
Heat Production and Loss	A	A.B	-	A-D
Fires and Explosions in the Operating Room	A	A.B	-	A-D

5. Course methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Direct observation
3. Observation & supervision
4. Written & oral communications
5. Senior staff experience
6. Clinical round

6. Course methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

- Written
- Oral examination

ii. Time schedule: After 12 months from applying to the M D degree.

v. Marks: 1000 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Guyton AC, Hall JE: Textbook of Medical Physiology, 11th ed. Saunders, 2019.
- Alex S Evers: Anesthetic Pharmacology 1st edition 2017
- Basic physics & measurement in anesthesia; Davis P.D., Parbrook G. D. and Kenny C.N., 4th edition, Butterworth Heirmann, 24th edition, 2022

iii. Recommended books

- Alan R Aitkenhead: Texbook of anaesthesia(5th edition, 2017)
- Miller R.D., Cucchiara RF et al, (2020): Anesthesia, 9th edition, vol(1).
- JP Howard Fee: Physiology for Anaesthesiologists (2nd edition 2015)
- Godman Gilmans. The pharmacological therapeutics. 13th Ed, 2017

iv. Periodicals, Web sites, … etc

- **Periodicals**
  - British journal of pharmacology

- Pharmacological review
- British journal of anesthesia
- American journal of physiology.
- Journal of applied physiology
- Anesthesia and analgesia
- Journal of pain
- Anesthesia journal

9. Signatures

Course Coordinator	
Unit 1 Coordinator:	**Head of the Department:**
Date: ……..	**Date:** ……..
Unit 2 Coordinator ……..	**Head of the Department** ……..
Date: ……..	**Date:** ……..
Unit 3 Coordinator ……..	**Head of the Department** ……..
Date: ……..	**Date:** ……..

Second Part

Course 5: Anesthesia and intensive care

Name of department:
Anesthesia and postoperative intensive care department
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title:** Anesthesia and intensive care
- **Course code: AIP329B**
- **Speciality** Anesthesia and postoperative intensive care
- **Number of credit points:** 147 credit point - didactic 24 credit point (16.3%) - practical 123 credit point (83.7%)
- **Department (s) delivering the course:** Department of Anesthesia and postoperative intensive care - Faculty of Medicine- Assiut- EGYPT
- **Coordinator (s):**

Principle coordinator: Prof. Zein El Abedeen Zareh Hassan
Assistant coordinator: Prof. Fatma Ahmed Abd El Aal
Dr. Khaled Abdel Baky

- **Date last reviewed: September 2022**
- **Requirements (prerequisites) if any :**
  - None
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**
- **This course consists of 3 Units(Modules)**

1- Unit (Module) 1 Anesthesia and peri-operative medicine
2- Unit (Module) 2 intensive care (Postoperative, general, trauma)
3- Unit (Module) 3 chronic pain management

2. Course Aims

1. To enable MD students to master high level of clinical skills, in addition to update and advanced medical knowledge, integration and interpretation of different investigations, professional competence in the area of Anesthesia and peri-operative medicine, intensive care medicine, and chronic pain management.
2. To provide candidates with enough general skills related to Anesthesia and postoperative intensive care including, writing specialized medical reports, use of information technology in clinical decisions and research, teaching junior students and counseling patients and their families about anesthesia, intensive care and chronic pain diseases and conditions.

3. Course intended learning outcomes (ILOs):

Unit 1 (Module): Anesthesia and peri-operative medicine

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions which may affect anesthetic management: Cardiovascular diseases as: A. ischemic heart diseases B. hypertension C. heart failure D. valvular heart diseases. E. congenital heart diseases. Respiratory disorders A. restrictive lung diseases. B. obstructive lung diseases. Liver diseases: 1. acute hepatitis 2. chronic hepatitis 3. liver cirrhosis renal diseases: A. renal impairment B. acute renal failure C. chronic renal failure endocrine diseases: A. diabetes mellitus B. pheochromocytoma C. adrenal disorders D. thyroid disorders	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Clinical rotations -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination

E. parathyroid disorders F. pituitary disorders Neuromuscular diseases with Neuropsychiatric Disease Anemia or Coagulation Disorders Malnutrition Evaluation of Children Evaluation of the Geriatric Patient Evaluation of the Pregnant Patient		
B. Mention the principles of 1) Airway management 2) Monitoring of various body function 3) Cardiopulmonary resuscitation 4) Theories of mechanism of action of general and local anesthesia 5) Principles of preoperative patient preparation. 6) Postoperative patient care and acute pain management. 7) Cardiopulmonary resuscitation 8) Neuroanesthesia 9) Cardiac Anesthesia 10) Anesthesia for Surgical Treatment of Congenital Heart Disease 11) Thoracic Anesthesia 12) Anesthesia for Major Vascular Surgery 13) Anesthesia for Gastrointestinal Surgery 14) Anesthesia for Kidney, Pancreas, or Other Organ Transplantation 15) Endocrine Surgery and Intraoperative Management of Endocrine Conditions 16) Anesthetic Considerations for Genitourinary and Renal Surgery 17) Anesthesia for Obstetric Care and Gynecologic Surgery 18) Anesthesia for Newborn Surgical Emergencies	-Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Clinical rotations -Service teaching	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Written and oral examination

19) Anesthesia for Children 20) Anesthesia for Orthopedic Surgery 21) Anesthesia for Ophthalmic Surgery 22) Anesthesia for Otorhinolaryngolic (Ear, Nose, and Throat) Surgery 23) Outpatient Anesthesia 24) Anesthesia Care for Diagnostic or Therapeutic 25) Procedures Outside of the Operating Room 26) Anesthesia for Trauma Patients 27) Anesthetic Management of the Burned patients 28) Postoperative complications		
C. Explain the facts and principles of the relevant basic supportive sciences related to Anesthesia and peri operative medicine.		
D. Explain the facts and principles of the relevant clinically supportive sciences related to Anesthesia and peri operative medicine.		
E. Describe the basic ethical and medicolegal principles revenant to the Anesthesia and peri operative medicine.		
F. Describe the basics and measurements of quality assurance to ensure good clinical care in Anesthesia and peri- operative medicine.		
G. Explain the ethical and scientific principles of medical research.		
H. Explain the impact of common health problems in the field of Anesthesia and peri-operative medicine on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to Anesthesia and peri operative medicine.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to Anesthesia and peri operative medicine related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Anesthesia and peri operative medicine.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs. • Cardiopulmonary resuscitation. • Airway management		
G. Plain quality improvement activities in the field of medical education and clinical practice in Anesthesia and peri operative medicine.		
H. Create and innovate plans, systems, and other issues for improvement of performance in to Anesthesia and peri operative medicine.		
I. Present and defend his / her data in front of a panel of experts		
J Formulate management plans and alternative decisions in different situations in the field of Anesthesia and peri operative medicine.		

C-Practical skills (Patient Care)

ILOs	Methods of teachinhg/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Anesthesia and peri operative medicine.	-Didactic (lectures, seminars, tutorial) -Clinical rounds Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. <u>Order the following non invasive and invasive diagnostic procedures</u> • Routine pre operative Lab investigations related Anesthesia and peri operative medicine. • Advanced investigations needed to evaluate concurrent diseases with anesthesia as appropriate.	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
C. <u>Interpret the following non invasive and invasive diagnostic procedures</u> • Routine pre operative Lab investigations related Anesthesia and peri operative	-Clinical round with senior staff -Observation -Post	- Procedure presentation - Log book - Chick list

medicine. • Advanced investigations needed to evaluate concurrent diseases with anesthesia as appropriate.	graduate teaching -Hand on workshops -Perform under supervision of senior staff	
D. <u>Develop and carry out patient management plans for the following problems</u> • Preoperative optimization of patients with different medical or surgical diseases who may need anesthesia	-Clinical round with senior staff	
E. <u>Counsel and educate patients and their family about</u> • Different types of anesthesia. • Preoperative preparation. • Postoperative period.	-Clinical round with senior staff	
F. Use information technology to support patient care decisions and patient education for the Anesthesia and peri-operative medicine related conditions.	-Clinical round with senior staff	
G. <u>Provide health care services aimed at preventing the following conditions</u> • Post operative complications as: Cardiovascular complications Pulmonary complications GIT complications pain	-Clinical round with senior staff	
H. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the mentioned in A.A and A.C	-Clinical round with senior staff	
I. Write competently all forms of patient charts and sheets including reports		

evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) in conditions mentioned in A.A and A.C	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage		

information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: • Interpretation of the results of different investigations related to Anesthesia and peri-operative medicine and discussion of different anesthetic options		
H. Fill the following reports: • Patients' medical reports • Anesthetic sheet		
I. Work effectively with others as a member or leader of a health care team as regard diagnosis and treatment of conditions mentioned in A.A and A.C		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		- 360o global rating
L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		- Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		- 360o global rating - Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Unit 2 (Module): Intensive Care Medicine

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
1. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions: **1.** 1. **Shock** • Hypovolemic Shock • Distributive Shock with special consideration to septic shock • Cardiac Shock • Obstructive shock **2. Respiratory Failure** • Acute Respiratory Failure • Acute Respiratory Failure from Specific Disorders with special consideration to ARDS **3. Critical Illness in Patients with Chronic Renal Failure** **4. Gastrointestinal Failure in the ICU** • Pancreatitis • Bowel Obstruction • Obstruction of the Large Bowel • Adynamic (Paralytic) Ileus • Diarrhea & Malabsorption • Pancreatic Insufficiency • Lactase Deficiency • Diarrhea **5. Infections and sepsis in the Critically Ill** **6. Surgical Infections by Body Site** **7. Management of the Elderly Patient in the ICU** **8. Cardiac Problems in Critical Care** • Atrial Arrhythmias • Ventricular Arrhythmias • Heart Block	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- log book -Objective structure clinical examination (OSCE) One MCQ examination at the second half of the second year -Written and oral exam

• Cardiac Problems during Pregnancy • Toxic Effects of Cardiac Drugs **9. Cardiothoracic Surgery** • Aneurysms, Dissections, & Transections of the Great Vessels • Postoperative Arrhythmias • Bleeding, Coagulopathy, & Blood Product, Utilization • Circulatory Arrest, & Ventricular, Assistance • Postoperative Low-Output States **10. Pulmonary Disease** • Status Asthmatics • Life-Threatening Hemoptysis • Deep Venous Thrombosis & Pulmonary • Thromboembolism • Anaphylaxis • Angioedema **11. Endocrine Problems in the Critically Ill Patient** • Thyroid Storm • Myxedema Coma • Acute Adrenal Insufficiency • Sick Euthyroid Syndrome **12. Diabetes Mellitus, Hyperglycemia.** • Diabetic Ketoacidosis • Hyperglycemic Hyperosmolar • Nonketotic Coma • Management of the Acutely Ill Patient with Hyperglycemia or Diabetes Mellitus • Hyperglycemia • Hypoglycemia • Other Complications of Diabetes Mellitus **13. Vascular Emergencies in the ICU** **14. Critical Care of Neurologic Disease** • Encephalopathy & Coma • Seizures • Neuromuscular Disorders • Cerebrovascular Diseases **15. Neurosurgical Critical Care**		

• Head Injuries • Aneurysmal Subarachnoid Hemorrhage • Tumors of the Central Nervous System • Cervical Spinal Cord Injuries **16. Acute Abdomen** **17. Gastrointestinal Bleeding** • Upper Gastrointestinal Bleeding • Lower Gastrointestinal Bleeding **18. Hepatobiliary Disease** • Acute Hepatic Failure • Acute Gastrointestinal Bleeding from Portal Hypertension • Ascites • Hepatorenal Syndrome • Liver Resection in Patients with Cirrhosis **19. Poisonings & Ingestions** **20. Care of Patients with Environmental Injuries** • Heat Stroke • Hypothermia • Frostbite • Near-Drowning • Envenomation • Electric Shock & Lightning Injury • Radiation Injury **21. Management of Critical Complications of Pregnancy** **22. Disorders Fluids, Electrolytes, & Acid-Base** **23. Malnutrition in the Critically Ill Patient**		
B. <u>Mention the principles of</u> • Basic and advanced life support • Indications of admission to ICU • Vascular access: • Airway management 1. Nasal and oral airways 2. Laryngeal mask airway 3. Endotraheal tube • Suction • Haemodynamic monitoring	-Didactic (lectures, seminars, tutorial) -outpatient -inpatient -case presentation -Direct observation	- log book -Objective structure clinical examination (OSCE) One MCQ examination at the second half of the second year

1. Arterial blood pressure 2. Pulmonary artery pressure 3. Central venous pressure and pulmonary artery wedge pressure. 4. Arrhythmias 5. Hemodynamic drug infusion • Invasive& noninvasive assessment of arterial blood gases 1. Acid base status 2. Hypoxemia and hypercapnia 3. Pulse oximetry • The most common electrolyte disorders 1. Hypokalemia 2. Hypomagnesemia 3. Hyponatremia 4. Hypocalcaemia. • Infection in ICU 1. Ventilator associated pneumonia 2. Sepsis syndrome. 3. Empirical antibiotic therapy • Mechanical ventilation 1. Objectives of mechanical ventilation 2. Indications of mechanical ventilation 3. Modes and settings of mechanical ventilation 4. Weaning from mechanical ventilation 5. Non invasive positive pressure ventilation 6. Complications of mechanical ventilation 7. Sedation and muscle relaxants • Nutrition 1. Entral tube feeding 2. Total parenteral nutrition • Specific management and ventilatory strategies in pulmonary syndromes 1. ARDS 2. Cardiogenic pulmonary edema 3. Acute exacerbation of COPD 4. Status asthmatics 5. Acute pulmonary embolism 6. IPF 1. 7. Pneumonia **post-operative management of the following:**		-Written and oral exam

• Open heart surgery. • Neurosurgery. • Vascular surgery. • Surgery for transplanted organs. Major surgical conditions		
C. Explain the facts and principles of the relevant basic supportive sciences related to Intensive Care Medicine.		
D. Explain the facts and principles of the relevant clinically supportive sciences related to Intensive Care Medicine.		
E. Describe the basic ethical and medicolegal principles revenant to the Intensive Care Medicine.		
F. Describe the basics and measurements of quality assurance to ensure good clinical care in Respiratory Intensive Care Medicine.		
G. Explain the ethical and scientific principles of medical research.		
H. Explain the impact of common health problems in the field of Intensive Care Medicine on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to Intensive Care Medicine.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to the Intensive Care Medicine related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Intensive Care Medicine.		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of clinical governs. • Peumothorax • Ventilator associated pneumonia • Cardio respiratory arrest • Pulmonary embolism • GIT bleeding • Cardiac tamponade • Cardiac arrhythmias • Intubation • Self extubation		
G. Plain quality improvement activities in the field of medical education and clinical practice in Intensive Care Medicine.		
H. Create and innovate plans, systems, and other issues for improvement of		

performance in Intensive Care Medicine.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of Intensive Care Medicine.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to Intensive Care Medicine	Lecture - Seminar - Outpatient -Inpatient -Case presentation -Direct observation	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. Order the following non invasive and invasive diagnostic procedures 1) CVP (order) 2) Arterial blood gases 3) Ventilator adjustment 4) Investigations appropriate to conditions mentioned above	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and	-Clinical round with senior	- Procedure presentation

<u>invasive diagnostic procedures</u> 1) Hemodynamic Monitoring 2) ABGs	staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Log book - Chick list
<u>Perform the following non invasive and invasive diagnostic procedures</u> 1) Oral airway placement 2) ABG sampling 3) CVP measurement 4) Ventilator adjustment 5) Chest care	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
<u>Prescribe the following non invasive and invasive therapeutic procedures.</u> • Syringe pump adjustment • Intubation and mechanical ventilation • NIV &IPPV modes and settings • Weaning from mechanical ventilation • Resuscitation • Nutrition	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
F. Develop and carry out patient management plans for the following problems • Diseases mentioned in A.A and A.C in Unit 2	-Clinical round with senior staff	

<u>G. Counsel and educate patients and their family about</u> • Symptoms of critical illness • Methods of management • How they synchronize with ventilators	-Clinical round with senior staff	
H. Use information technology to support patient care decisions and patient education for the Intensive Care Medicine related conditions.	-Clinical round with senior staff	
<u>I. Provide health care services aimed at preventing the following conditions</u> • Hospital acquired pneumonia • Ventilator associated respiratory tract infection • Bed sores • Deep venous thrombosis • GIT bleeding • Psychological disturbances of the patients • Healthcare associated pneumonia	-Clinical round with senior staff	
J .Work with health care professionals, including those from other disciplines, to provide patient-focused care for the following • Suctioning • Tracheotomy tube care • Disinfection • Caring wounds • Chest care • Prevention of bed sores	-Clinical round with senior staff	
K. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) in the following problems: • ARDS • Difficult weaning	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems. • Endotracheal tube obstruction • Life threatening bronchospasm • Barotrauma • Arrhythmias	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals. Different maneuvers in ICU		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
G. Perform the following oral communications: • Advise patient for synchrony • Deal with patient relatives • Ordering residents • Ordering nurses		
H. Fill the following reports: • Patients' medical reports • ABGs reports • Ventilatory lung mechanics		
I. Work effectively with others as a member or leader of a health care team • A member of a health care team in respiratory intensive care • A leader of a health care team in night shift		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		- 360o global rating
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating
Practice cost-effective health care and resource allocation that does not compromise quality of care		- Check list evaluation of live or recorded performance
Advocate for quality patient care and assist patients in dealing with system complexities		- 360o global rating - Patient survey
Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Unit 3 (Module) Chronic pain management

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. <u>Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions:</u> Common chronic pain condition • Headache • Cervical and Lumbar Pain • Abdominal Pain • Arthritis • Neuropathic Pain • Myofascial Pain • Fibromyalgia • Cancer pain • Pediatric Pain • Pregnancy and Pain • Geriatrics and Chronic Pain • Gender and Ethnic Issues in Chronic Pain Comorbid Conditions • Psychological Comorbidity • Obesity and Chronic Pain	- Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient - Case presentation -Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year -Written and oral exam
B. <u>Mention the principles of</u> • Physiology of pain • Molecular Mechanisms of Nociception • Different chronic pain syndromes • Pharmacology of drugs used to treat different types of pain	-Didactic (lectures, seminars, tutorial) -outpatient -inpatient -case presentation -Direct	- Log book -Objective structure clinical examination (OSCE) One MCQ examination at the second

	observation	half of the second year -Written and oral exam
C. Explain the facts and principles of the relevant basic supportive sciences related to chronic pain management.		
D. Explain the facts and principles of the relevant clinically supportive sciences related to chronic pain management.		
E. Describe the basic ethical and medicolegal principles revenant to chronic pain management.		
F. Describe the basics and measurements of quality assurance to ensure good clinical care in chronic pain management.		
G. Explain the ethical and scientific principles of medical research.		
H. Explain the impact of common health problems in the field of chronic pain management on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to chronic pain management.	-Clinical rounds -Senior staff experience	-Procedure and case presentation -Log book & Portfolio
B. Apply the basic and clinically supportive sciences which are appropriate to chronic pain management related problems.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to chronic pain management.		
D. Plan research projects.		
E. Write scientific papers.		
F. Plain quality improvement activities in the field of medical education and clinical practice in chronic pain management.		
G. Create and innovate plans, systems, and other issues for improvement of performance in chronic pain management.		
H. Present and defend his / her data in front of a panel of experts		
I. Formulate management plans and alternative decisions in different situations in the field of chronic pain management.		

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Take history, examine and clinically diagnose different conditions related to chronic pain management.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient -Case presentation -Direct observation	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical exam
B. <u>Order the following non invasive and invasive diagnostic procedures</u> Appropriate investigations related to conditions mentioned above as : • Chest Xray • Bone scan • Computed tomography • MRI • EMG	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
C. <u>Interpret the following non invasive and invasive diagnostic procedures</u> • Chest X-ray • Bone scan • Computed tomography • MRI • EMG	-Clinical round with senior staff -Observation -Post graduate teaching	- Procedure presentation - Log book - Chick list - Objective structure clinical

	-Hand on workshops -Perform under supervision of senior staff	examination (OSCE) - One MCQ examination at the second half of the second year
D. <u>Perform the following non invasive and invasive diagnostic procedures:</u> Diagnostic nerve blocks as: • diagnostic cervical medial branch block • diagnostic sacroiliac joint blocks provocative discography	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
E. Prescribe the following non invasive and invasive therapeutic procedures. Ablative techniques ▪ Chemical denervation ▪ Cry ablation ▪ Thermal intradiscal procedures ▪ Intervertebral disc annuloplasty (IDET) ▪ Radiofrequency ablation Acupuncture (adjuvant) Blocks • Joint blocks (intra-articular facet joint injections, sacroiliac joint injections) • Nerve and nerve root blocks (celiac plexus blocks, lumbar sympathetic blocks or stellate ganglion blocks, medial branch blocks) Botulinum toxin Electrical nerve stimulation Epidural steroids with or without local	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list

anesthetics Intrathecal drug therapies • Neurotic blocks • Intrathecal nonopioid injections • Intrathecal opioid injections Minimally invasive spinal procedures • Vertebroplasty		
F. <u>Perform the following non invasive and invasive therapeutic procedures</u> Radiofrequency ablation Nerve and nerve root blocks Electrical nerve stimulation Epidural steroids with or without local anesthetics Intrathecal drug therapies • Neurolytic blocks • Intrathecal nonopioid injections Intrathecal opioid injections		
G. <u>Develop and carry out patient management plans for the following problems</u> conditions mentioned above	-Clinical round with senior staff	
H. <u>Counsel and educate patients and their family about</u> conditions mentioned above	- Clinical round with senior staff -Perform under supervision of senior staff	
I. Use information technology to support patient care decisions and patient education for the chronic pain management related conditions	-Clinical round with senior staff	
Provide health care services aimed at preventing the conditions mentioned above	-Clinical round with senior staff	
J. Work with health care professionals, including those from other disciplines, to provide patient-focused care for the conditions mentioned above	-Clinical round with senior staff	

K. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plain and conduct audit cycles) • Headache • Cervical and Lumbar Pain • Arthritis • Neuropathic Pain	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals in chronic pain management		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
Create and sustain a therapeutic and ethically sound relationship with patients	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	- Global rating -Procedure & case presentation -Log book & Portfolios - Chick list
Perform the following oral communications: Options and prognosis of the treatment		
Fill the following reports: Patients' medical reports		
Work effectively with others as a member or leader of a health care team		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation - Senior staff experience - Case taking	-Objective structured clinical examination - Patient survey
Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		- 360o global rating
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Work effectively in different health care delivery settings and systems.	- Observation - Senior staff experience	- 360o global rating
G. Practice cost-effective health care and resource allocation that does not compromise quality of care		- Check list evaluation of live or recorded performance
H. Advocate for quality patient care and assist patients in dealing with system complexities		- 360o global rating - Patient survey
I. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: Second Part

Topic	Covered ILOs			
	Knowledge A	intellectual B	Practical skills	General skills
Unit 1 Anesthesia and postoperative medicine				
Ischemic heart diseases	A, C-H	A-E, G-J	A-C	A-P
hypertension	A, C-H	A-E, G-J	A-C	A-P
heart failure	A, C-H	A-E, G-J	A-C	A-E
valvular heart diseases.	A, C-H	A-E, G-J	A-C	A-E
congenital heart diseases.	A, C-H	A-E, G-J	A-C	A-E
restrictive lung diseases.	A, C-H	A-E, G-J	A-C	A-P
obstructive lung diseases.	A, C-H	A-E, G-J	A-C	A-P
acute hepatitis	A, C-H	A-E, G-J	A-C	A-E
chronic hepatitis	A, C-H	A-E, G-J	A-C	A-E
liver cirrhosis	A, C-H	A-E, G-J	A-C	A-E
renal impairment	A, C-H	A-E, G-J	A-C	A-E
acute renal failure	A, C-H	A-E, G-J	A-C	A-E
chronic renal failure	A, C-H	A-E, G-J	A-C	A-E
diabetes mellitus	A, C-H	A-E, G-J	A-C	A-E
pheochromocytoma	A, C-H	A-E, G-J	A-C	A-E
adrenal disorders	A, C-H	A-E, G-J	A-C	A-E
thyroid disorders	A, C-H	A-E, G-J	A-C	A-E
parathyroid disorders	A, C-H	A-E, G-J	A-C	A-E
pituitary disorders	A, C-H	A-E, G-J	A-C	A-E
Neuromuscular diseases	A, C-H	A-E, G-J	A-C	A-E
with Neuropsychiatric Disease	A, C-H	A-E, G-J	A-C	A-E
Anemia or Coagulation Disorders	A, C-H	A-E, G-J	A-C	A-E
Malnutrition	A, C-H	A-E, G-J	A-C	A-E
Evaluation of Children	A, C-H	A-E, G-J	A-C	A-E

Evaluation of the Geriatric Patient	A, C-H	A-E, G-J	A-C	A-E
Evaluation of the Pregnant Patient	A, C-H	A-E, G-J	A-C	A-E
Airway management	B, C-H	A-J	A-I	A-E
Monitoring of various body function	B, C-H	A-E, G-J	A-I	A-E
Cardiopulmonary resuscitation	B, C-H	A-J	A-I	A-E
Theories of mechanism of action of general and local anesthesia	B, C-H	A-E, G-J	A-I	A-E
Principles of preoperative patient preparation.	B, C-H	A-E, G-J	A-I	A-E
Postoperative patient care and acute pain management.	B, C-H	A-E, G-J	A-I	A-E
Cardiopulmonary resuscitation	B, C-H	A-E, G-J	A-I	A-E
Neuroanesthesia	B, C-H	A-E, G-J	A-I	A-E
Cardiac Anesthesia	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Surgical Treatment of Congenital Heart Disease	B, C-H	A-E, G-J	A-I	A-E
Thoracic Anesthesia	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Major Vascular Surgery	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Gastrointestinal Surgery	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Kidney, Pancreas, or Other Organ Transplantation	B, C-H	A-E, G-J	A-I	A-E
Endocrine Surgery and Intraoperative Management of Endocrine Conditions	B, C-H	A-E, G-J	A-I	A-E
Anesthetic Considerations for	B, C-H	A-E, G-J	A-I	A-E

Genitourinary and Renal Surgery				
Anesthesia for Obstetric Care and Gynecologic Surgery	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Newborn Surgical Emergencies	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Children	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Orthopedic Surgery	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Ophthalmic Surgery	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Otorhinolaryngolic (Ear, Nose, and Throat) surgery	B, C-H	A-E, G-J	A-I	A-E
Outpatient Anesthesia	B, C-H	A-E, G-J	A-I	A-E
Anesthesia Care for Diagnostic or Therapeutic	B, C-H	A-E, G-J	A-I	A-E
Procedures Outside of the Operating Room	B, C-H	A-E, G-J	A-I	A-E
Anesthesia for Trauma Patients	B, C-H	A-E, G-J	A-I	A-E
Anesthetic Management of the Burned patients	B, C-H	A-E, G-J	A-I	A-E
Post operative complications	B, C-H	A-E, G-J	A-I	A-E
Unit 2 Intensive care medicine				
Shock				
Hypovolemic Shock	A,C-H	A-J	A,B,F-H	C-E
Distributive Shock with special consideration to septic shock	A,C-H	A-J	A,B,F-H	C -E
Obstructive shock	A,C-H	A-J	A,B,F-H	C-E
Cardiac Shock	A,C-H	A-J	A,B,F-H	C-E
Respiratory Failure				

Acute Respiratory Failure	A,C-H	A-J	A,B,F-H	C-P
Acute Respiratory Failure from Specific Disorders with special consideration to ARDS	A,C-H	A-J	A,B,F-H	A,C-E
Critical Illness in Patients with Chronic Renal Failure	A,C-H	A-J	A,B,F-H	C-E
Gastrointestinal Failure in the ICU				
Pancreatitis	A,C-H	A-J	A,B,F-H	C-E
Bowel Obstruction	A,C-H	A-J	A,B,F-H	C-E
Obstruction of the Large Bowel	A,C-H	A-J	A,B,F-H	C-E
Adynamic (Paralytic) Ileus	A,C-H	A-J	A,B,F-H	C-E
Diarrhea & Malabsorption	A,C-H	A-J	A,B,F-H	C-E
Pancreatic Insufficiency	A,C-H	A-J	A,B,F-H	C-E
Lactase Deficiency	A,C-H	A-J	A,B,F-H	C-E
Diarrhea	A,C-H	A-J	A,B,F-H	C-E
Infections and sepsis in the Critically Ill	A,C-H	A-J	A,B,F-H	C-E
Surgical Infections by Body Site	A,C-H	A-J	A,B,F-H	C-E
Management of the Elderly Patient in the ICU	A,C-H	A-J	A,B,F-H	C-E
Cardiac Problems in Critical Care				
Atrial Arrhythmias	A,C-H	A-J	A,B,F-H	B,C-E
Ventricular Arrhythmias	A,C-H	A-J	A,B,F-H	B,C-E
Heart Block	A,C-H	A-J	A,B,F-H	C-E
Cardiac Problems during Pregnancy	A,C-H	A-J	A,B,F-H	C-E
Toxic Effects of Cardiac Drugs	A,C-H	A-J	A,B,F-H	C-E

Cardiothoracic Surgery				
Aneurysms, Dissections, & Transections of the Great Vessels	A,C-H	A-J	A,B,F-H	C-E
Postoperative Arrhythmias	A,C-H	A-J	A,B,F-H	C-E
Bleeding, Coagulopathy, & Blood Product, Utilization	A,C-H	A-J	A,B,F-H	C-E
Circulatory Arrest, & Ventricular, Assistance	A,C-H	A-J	A,B,F-H	C-E
Postoperative Low-Output States	A,C-H	A-J	A,B,F-H	C-E
Pulmonary Disease				
Status Asthmatics	A,C-H	A-J	A,B,F-K	B,C-P
Life-Threatening	A,C-H	A-J	A,B,F-H	C-E
Hemoptysis	A,C-H	A-J	A,B,F-H	C-E
Deep Venous Thrombosis	A,C-H	A-J	A,B,F-I	C-E
Pulmonary Thromboembolism	A,C-H	A-J	A,B,F-I	C-P
Anaphylaxis	A,C-H	A-J	A,B,F-H	C-E
Angioedema	A,C-H	A-J	A,B,F-H	C-E
Endocrine Problems in the Critically Ill Patient				
Thyroid Storm	A,C-H	A-J	A,B,F-H	C-E
Myxedema Coma	A,C-H	A-J	A,B,F-H	C-E
Acute Adrenal Insufficiency	A,C-H	A-J	A,B,F-H	C-E
Sick Euthyroid Syndrome	A,C-H	A-J	A,B,F-H	C-E
Diabetes Mellitus, Hyperglycemia.	A,C-H	A-J	A,B,F-H	C-E
Diabetic Ketoacidosis	A,C-H	A-J	A,B,F-H	C-E

Hyperglycemic Hyperosmolar	A,C-H	A-J	A,B,F-H	C-E
Nonketotic Coma	A,C-H	A-J	A,B,F-H	C-E
Management of the Acutely Ill Patient with Hyperglycemia or Diabetes Mellitus	A,C-H	A-J	A,B,F-H	C-E
Hyperglycemia	A,C-H	A-J	A,B,F-H	C-E
Hypoglycemia	A,C-H	A-J	A,B,F-H	C-E
Other Complications of Diabetes Mellitus	A,C-H	A-J	A,B,F-H	C-E
Vascular Emergencies in the ICU	A,C-H	A-J	A,B,F-H	C-E
Critical Care of Neurologic Disease				
Encephalopathy & Coma	A,C-H	A-J	A,B,F-H	C-E
Seizures	A,C-H	A-J	A,B,F-H	C-E
Neuromuscular Disorders	A,C-H	A-J	A,B,F-H	C-E
Cerebrovascular Diseases	A,C-H	A-J	A,B,F-H	C-E
Neurosurgical Critical Care				
Head Injuries	A,C-H	A-J	A,B,F-H	C-E
Subarachnoid Hemorrhage	A,C-H	A-J	A,B,F-H	C-E
Tumors of the Central Nervous System	A,C-H	A-J	A,B,F-H	C-E
Cervical Spinal Cord Injuries	A,C-H	A-J	A,B,F-H	C-E
Acute Abdomen	A,C-H	A-J	A,B,F-H	C-E
24. Gastrointestinal Bleeding				
Upper Gastrointestinal Bleeding	A,C-H	A-J	A,B,F-I	C-E
Lower Gastrointestinal Bleeding	A,C-H	A-J	A,B,F-I	C-E

Hepatobiliary Disease				
Acute Hepatic Failure	A,C-H	A-J	A,B,F-I	C-E
Acute Gastrointestinal Bleeding from Portal Hypertension	A,C-H	A-J	A,B,F-I	C-E
Ascites	A,C-H	A-J	A,B,F-H	C-E
Hepatorenal Syndrome	A,C-H	A-J	A,B,F-G	C-E
Liver Resection in Patients with Cirrhosis	A,C-H	A-J	A,B,F-H	C-E
Poisonings & Ingestions	A,C-H	A-J	A,B,F-H	C-E
Care of Patients with Environmental Injuries				
Heat Stroke	A,C-H	A-J	A,B,F-H	C-E
Hypothermia	A,C-H	A-J	A,B,F-H	C-E
Frostbite	A,C-H	A-J	A,B,F-H	C-E
Near-Drowning	A,C-H	A-J	A,B,F-H	C-E
Envenomation	A,C-H	A-J	A,B,F-H	C-E
Electric Shock & Lightning Injury	A,C-H	A-J	A,B,F-H	C-E
Radiation Injury	A,C-H	A-J	A,B,F-H	C-E
Management of Critical Complications of Pregnancy	A,C-H	A-J	A,B,F-H	C-E
Disorders Fluids, Electrolytes, & Acid-Base	A,C-H	A-J	A,B,F-H	C-E
Malnutrition in the Critically Ill Patient	A,C-H	A-J	A,B,F-H	C-E
post-operative management of the following:				
Open heart surgery.	B,C-H	A-J	A,B,F-H	C-E
Neurosurgery.	B, C-H	A-J	A,B,F-H	C-E
Vascular surgery.	B,C-H	A-J	A,B,F-H	C-E
Surgery for transplanted organs.	B,C-H	A-J	A,B,F-H	C-E
Major surgical conditions	B,C-H	A-J	A,B,F-H	C-E

Basic and advanced life support	B,C-H	A-J	A,B,E	C-E
Indications of admission to ICU	B,C-H	A-J	A,B	C-E
Vascular access:	B,C-H	A-J	A,B	C-E
Airway management	B,C-H	A-J	A,B,E	B,C-E
Nasal and oral airways	B,C-H	A-J	A,B,D,E	C-E
Laryngeal mask airway	B,C-H	A-J	A,B,D,E	C-E
Endotraheal tube	B,C-H	A-J	A,B,D,E	C-E
Suction	B,C-H	A-J	A,B,E,J	C-E
Haemodynamic monitoring	B,C-H	A-J	A-C,D	C-E
Arterial blood pressure	B,C-H	A-J	A,B,D	C-E
Pulmonary artery pressure	B,C-H	A-J	A	C-E
Central venous pressure and pulmonary artery wedge pressure.	B,C-H	A-J	A,B,D	C-E
Arrhythmias	B,C-H	A-J	A	C-E
Hemodynamic drug infusion	B,C-H	A-J	A,E	C-E
Invasive& noninvasive assessment of arterial blood gases	B,C-H	A-J	A,B,C,D	C-E
Acid base status	B,C-H	A-J	A-C	C-E
Hypoxaemia and hypercapnia	B,C-H	A-J	A-C	C-E
Pulse oximetry	B,C-H	A-J	A,B	C-E
The most common electrolyte disorders	B,C-H	A-J	A,B	C-E
Hypokalemia	B,C-H	A-J	A,B	C-E
Hypomagnesemia	B,C-H	A-J	A,B	C-E

Hyponatremia	B,C-H	A-J	A,B	C-E
Hypocalcaemia.	B,C-H	A-J	A,B	C-E
Infection in ICU	B,C-H	A-J	A,B	C-E
Ventilator associated pneumonia	B,C-H	A-J	A,B,K	C-E
Sepsis syndrome.	B,C-H	A-J	A,B	C-E
Empirical antibiotic therapy	B,C-H	A-J	A	C-E
Mechanical ventilation	B,C-H	A-J	A,D,E	C-E
Objectives of mechanical ventilation	B,C-H	A-J	A	C-E
Indications of mechanical ventilation	B,C-H	A-J	A	C-E
Modes and settings of mechanical ventilation	B,C-H	A-J	A,D,E	C-E
Weaning from mechanical ventilation	B,C-H	A-J	A,E	A,C-E
Non invasive positive pressure ventilation	B,C-H	A-J	A	C-E
Complications of mechanical ventilation	B,C-H	A-J	A,E	C-E
Sedation and muscle relaxants	B,C-H	A-J	A	C-E
Nutrition	B,C-H	A-J	A,E	C-E
Entral tube feeding	B,C-H	A-J	A,E	C-E
Total parenteral nutrition	B,C-H	A-J	A,E	C-E
Specific management and ventilatory strategies in pulmonary syndromes				
ARDS	A-H	A-J	A,B	A,C-E
Status asthmatics	A-H	A-J	A,B	C-E
Acute pulmonary embolism	A-H	A-J	A,B	C-E

IPF	A-H	A-J	A,B	C-E
pneumonia	A-H	A-J	A,B	C-E
Unit 3 Chronic pain management				
Headache	A,C-H	A-I	A-K	A-P
Cervical and Lumbar Pain	A,C-H	A-I	A-K	A-E
Abdominal Pain	A,C-H	A-I	A-K	B-E
Arthritis	A,C-H	A-I	A-K	A-P
Neuropathic Pain	A,C-H	A-I	A-K	A-E
Myofascial Pain	A,C-H	A-I	A-K	B-E
Fibromyalgia	A,C-H	A-I	A-K	B-E
Cancer pain	A,C-H	A-I	A-K	B-E
Pediatric Pain	A,C-H	A-I	A-K	B-E
Pregnancy and Pain	A,C-H	A-I	A-K	B-E
Geriatrics and Chronic Pain	A,C-H	A-I	A-K	B-E
Gender and Ethnic Issues in Chronic Pain	A,C-H	A-I	A-K	B-E
Comorbid Conditions				
Psychological Comorbidity	A,C-H	A-I	A-K	B-E
Obesity and Chronic Pain	A,C-H	A-I	A-K	B-E
Physiology of pain	B	-		
Molecular Mechanisms of Nociception	B	-		
Different chronic pain syndromes	B	-		
Pharmacology of drugs used to treat different types of pain	B	-		

5. Course methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Clinical rounds
5. Clinical rotations
6. Service teaching
7. Direct observation
8. Post graduate teaching
9. Hand on workshops
10. Perform under supervision of senior staff
11. Simulations
12. Present a case (true or simulated) in a grand round
13. Case Taking
14. journal club,
15. Critically appraised topic,
16. Educational prescription
17. Observation & supervision
18. Written & oral communications

6. Course methods of teaching/learning: for students with poor achievements

3. Extra Didactic (lectures, seminars, tutorial) according to their needs
4. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

- Clinical examination
- Written
- Oral examination
- Chick list
- log book & portfolio
- Procedure/case presentation

- One MCQ examination in f the second year and one in the third year
- Objective structured clinical examination
- Check list evaluation of live or recorded performance
- Record review (report)
- Patient survey
- 360o global rating

ii. Time schedule: At the end of the second part

vi. Marks: 1000 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Morgan G.E, Mikhail M and Murry M., (2016) Clinical anesthesiology, 6th edition, McGraw-Hill Companies, UK, and USA.
- Paul L Marino: The ICU Book (5th Edition ,2017)
- Dawn A. Marcus: Chronic pain: a primary care guide to practical management (2nd edition, 2014

iii. Recommended books

- David E. Longnecker: Anaesthesiology, (1st edition, 2007)
- Alan R Aitkenhead: Texbook of anaesthesia(5th edition, 2007)
- Paul Barash clinical anaesthesia 8th edition
- Miller R.D., Cucchiara RF et al, (2020): Anesthesia, 9th , vol(1).
- Mechanical Ventilation - MacIntyre N R Branson R D – 2008
- Text book of critical care (Shoemaker, 5th edition, 2015)
- Intensive care medicine (Irwin and Rippe)6th edition, 2008)

- Frederic S. Bongard: Current Diagnosis & Treatment in critical care (3rd edition, 2008)

iv. Periodicals, Web sites, … etc

- **Periodicals**
  - American Journal of Respiratory & Critical Care Medicine
  - Chest
  - BMJ
  - British journal of anesthesia
  - Anesthesia and analgesia
  - Anesthesiology
  - Canadian journal of anesthesia
- **Web Sites**:
  - www.frca.co.uk
  - **www.nda.ox.ac.uk/wfsa/**

v. Others

- None

9. Signatures

Course Coordinator:	**Head of the Department:**
Date: **……..**	**Date:** **……..**

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Anesthesia and postoperative intensive care

***The Graduate (after residence training and medical doctorate years of study) must*:**

1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in *Anaesthesia and postoperative intensive care*.

2- Have continuous ability to add knowledge to *Anaesthesia and postoperative intensive care* through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve clinical practice.

4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific research.

5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.

6- Identify and create solutions for health problems in *Anaesthesia and postoperative intensive care***.**

7- Acquire an in depth understanding of common areas of *Anaesthesia and postoperative intensive care*, from basic clinical care to evidence based clinical application, and possession of required skills to manage independently all problems in these areas.

8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.

9- Function as teacher in relation to colleagues, medical students and other health professions.

10- Master decision making capabilities in different situations related to *Anaesthesia and postoperative intensive care*.

11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.

13- Show model attitudes and professionalism.

14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in *Anaesthesia and postoperative intensive care* or one of its subspecialties.

15- Use recent technologies to improve his practice in *Anaesthesia and postoperative intensive care* **.**

16- Share in updating and improving clinical practice in *Anaesthesia and postoperative intensive care*.

2- Competency based Standards for medical doctorate in Anaesthesia and postoperative intensive care

22.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established, updated and evidence- based theories, basics and developments of *Anaesthesia and postoperative intensive care* and relevant sciences.

2-1-B- Basics, methods and ethics of medical research.

2-1-C- Ethical and medicolegal principles of medical practice related to *Anaesthesia and postoperative intensive care*.

2-1-D- Principles and measurements of quality in *Anesthesia and postoperative intensive care***.**

2-1-E- Principles and efforts for maintainace and improvements of public health.

2- Intellectual skills

By the end of the program, the graduate should be able to demonstrate the following

2-2-A- Application of basic and other relevant science to solve *Anesthesia and postoperative intensive care* related Problems.

2-2-B- Problem solving based on available data.

2-2-C- Involvement in research studies related to *Anesthesia and postoperative intensive care*.

2-2-D- Writing scientific papers.

2-2-E- Risk evaluation in the related clinical practice.

2-2-F- Planning for performance improvement in *Anesthesia and postoperative intensive care*.

2-2-G- Creation and innovation in *Anesthesia and postoperative intensive care*.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to *Anesthesia and postoperative intensive care*.

2.3- Clinical skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Patient Care:-***

2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in *Anesthesia and postoperative intensive care*.

2-3-B- Master patient care skills relevant to *Anesthesia and postoperative intensive care* for patients with all diagnoses and procedures.

2-3-C- Write and evaluate reports for situations related to the *Anesthesia and postoperative intensive care*.

2.4- General skills

By the end of the program, the graduate should be able to

- ***Competency-based outcomes for Practice-based Learning and Improvement***

2-4-A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management

2-4-B- Use competently all information sources and technology to improve his practice.

2-4-C- Master skills of teaching and evaluating others.

- ***Competency-based objectives for Interpersonal and Communication Skills***

2-4-D-Master interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

- ***Competency-based objectives for Professionalism***

2-4-E-Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives for Systems-based Practice:***

2-4-F-Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

2-4-G- Participate in improvement of the education system.

2-4-H- Demonstrate skills of leading scientific meetings including time management

2-4-O- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	**Medical knowledge**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

Method	Practical skills	K	Intellectual	General skills			
	Patient care	K	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems-based practice
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

Annex 4, Glossary of MD students assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.

- Chart Stimulated Recall – Uses the MD doctor's patient records in an oral examination to assess clinical decision-making.

- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.

- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.

- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.
- Portfolios – A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.
- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5, Program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits questionnaires	#
Senior students	questionnaires	#
Alumni	questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراه مع المعايير الأكاديمية المعتمدة من كلية الطب □ جامعة أسيوط لدرجة الدكتوراه في التخدير و العناية المركزة

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Anesthesia and postoperative intensive care.	1-إتقان أساسيات و منهجيات البحث العلمي
2- Have continuous ability to add knowledge new developments to Anesthesia and postoperative intensive care through research and publication.	2-العمل المستمر علي الإضافة للمعارف في مجال التخصص
3- Appraise and utilise scientific knowledge to continuously update and improve clinical practice and relevant basic sciences.	3-تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific	4-دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها
5- Function as a leader of a team to provide patient care that is appropriate, compassionate for dealing with effective and health Problems and health promotion. 7- Acquire an in depth understanding of common areas of speciality, from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	5-إظهار وعيا عميقا بالمشاكل الجارية و النظريات الحديثة في مجال التخصص
6- Identify and create solutions for health problems in Anesthesia and postoperative intensive care.	6-تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها
5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with	7-إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص

health problems and health promotion. 7- Acquire an in depth understanding of common areas of Anesthesia and postoperative intensive care , from basic clinical care to evidence based clinical application, and possession of skills to manage independently all problems in these areas.	
16- Share in updating and improving clinical practice in Anesthesia and postoperative intensive care. 9- Function as teacher in relation to colleagues, medical students and other health professions.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية
15- Use recent technologies to improve his practice in Anesthesia and postoperative intensive care.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to Anesthesia and postoperative intensive care.	11-اتخاذ القرار في ظل المعلومات المتاحة
11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة
12- Demonstrate in depth awareness of public health and health policy issues including	13-الوعي بدوره في تنمية المجتمع والحفاظ

independent ability to improve health care, and identify and carryout system-based improvement of care.	على البيئة
13- Show model attitudes and professionalism.	14-التصرف بما يعكس الالتزام بالنزاهة و المصداقية و قواعد المهنة
14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in Anesthesia and postoperative intensive care or one of its subspecialties. 15- Use recent technologies to improve his practice in Anesthesia and postoperative intensive care.	15-الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين

2- Academic standards

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1. A- Established, updated and evidence- based theories, basics and developments of Anesthesia and postoperative intensive care and relevant sciences.	2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	2-1-ب –أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicologal principles of medical practice related to C Anesthesia and postoperative intensive care.	2-1-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in Anesthesia and postoperative intensive care.	2-1-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintains and improvements of public health.	2-1-هـ – المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and other relevant science to solve Anesthesia and postoperative intensive care related problems.	2–2–أ –تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها
2.2.B- Problem solving based on available data.	2–2–ب –حل المشاكل المتخصصة استنادا علي المعطيات المتاحة
2.2.C- Involvement in research studies related to Anesthesia and postoperative intensive care	2–2–ج –إجراء دراسات بحثية تضيف إلى المعارف
2.2. D- Writing scientific papers.	2–2–د– صياغة أوراق علمية
2.2. E- Risk evaluation in the related clinical practice	2–2—هـ تقييم المخاطر في الممارسات المهنية
2.2.F- Planning for performance improvement in Anesthesia and postoperative intensive care.	2–2–و –التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the Anesthesia and postoperative intensive care.	2–2–ز – الابتكار /الإبداع
2.2. H- Evidence – based discussion.	2–2–ح– الحوار والنقاش المبني علي البراهين والأدلة

2.2.I- Discussion making in different situations related to Anesthesia and postoperative intensive care.	2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2.3. A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Anesthesia and postoperative intensive care. 2.3. B- Master patient care skills relevant to Anesthesia and postoperative intensive care or patients with all diagnoses and procedures.	2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the field of Anesthesia and postoperative intensive care.	2-3-ب- كتابة و تقييم التقارير المهنية.
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4.B- Use competently all information sources and technology to improve his practice.	2-3-د – استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.G- Participate in improvement of the education system.	2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate for Anesthesia and postoperative intensive care

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established, updated and evidence-based Theories, Basics and developments of Anesthesia and postoperative intensive care and relevant sciences.	**2-1-A**- Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to his speciality as well as the evidence – based application of this knowledge to patient care.
2-1-B Basic, methods and ethics of medical research.	**2-1-B-** Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C- Ethical and medicologal principles of medical practice related to Anesthesia and postoperative intensive care field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Anesthesia and postoperative intensive care.
2-1-D- Principles and measurements of quality in the Anesthesia and postoperative intensive care field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Anesthesia and postoperative intensive care.
2-1-E-Principles and efforts for maintains and improvements of public health.	**2-1-E-** Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Anesthesia and postoperative intensive care
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other	**2-2-A-** Apply the basic and clinically supportive

relevant science to solve Anesthesia and postoperative intensive care related problems.	sciences which are appropriate to Anesthesia and postoperative intensive care related conditions / problem / topics.
2-2-B-Problem solving based on available data.	**2-2-B-** Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Anesthesia and postoperative intensive care.
2-2-C- Involvement in research studies related to the Anesthesia and postoperative intensive care.	**2-2-C-** Plan research projects.
2-2-D Writing scientific papers.	**2-2-D-** Write scientific paper.
2-2-E-Risk evaluation in the related clinical practice.	**2-2-E-** Participate in clinical risk management as a part of clinical governance.
2-2-F-Planning for performance improvement in the Anesthesia and postoperative intensive care field.	**2-2-F-** Plan for quality improvement in the field of medical education and clinical practice in Anesthesia and postoperative intensive care
2-2-G-Creation and innovation in the speciality field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in his practice.
2-2-H-Evidence – based discussion.	**2-2-H-** Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to Anesthesia and postoperative intensive care fields.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the Anesthesia and postoperative intensive care.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient care :)***
2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.	**2-3-1-A-** Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. ***p.s.*** Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.
2-3-B- Master patient care skills relevant to Anesthesia and postoperative intensive care for patients with all diagnoses and procedures.	**2-3-1-B-** Provide extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Anesthesia and postoperative intensive care.
	2-3-1-C- Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.
	2-3-1-D- Perform diagnostic and therapeutic procedures considered essential in the field of Anesthesia and postoperative intensive care
	2-3-1-E- Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.
	2-3-1-F- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Anesthesia and postoperative

	intensive care related situations. **2-3-1-G-** Gather essential and accurate information about patients of the Anesthesia and postoperative intensive care related conditions. **2-3-1-H** Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for the Anesthesia and postoperative intensive care related conditions. **2-3-1-I-** Develop and carry out patient management plans for Anesthesia and postoperative intensive care related conditions. **2-3-1-J-** Counsel and educate patients and their families about Anesthesia and postoperative intensive care related conditions. **2-3-1-K-** Use information technology to support patient care decisions and patient education in all Anesthesia and postoperative intensive care related clinical situations. **2-3-1-L-** Perform competently all medical and invasive procedures considered essential for the Anesthesia and postoperative intensive care related conditions / area of practices. **2-3-1-M-** Provide health care services aimed at preventing the Anesthesia and postoperative intensive care related health problems. **2-3-1-N-** Lead health care professionals,

	including those from other disciplines, to provide patient-focused care in Anesthesia and postoperative intensive care related conditions**.**
2-3-C- Write and evaluate reports for situations related to the field of Anesthesia and postoperative intensive care.	**2-3-1-O-** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive timely and legible medical records).
2-4- General skills **2-4-A-** Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	***2/3/2 General skills*** **2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Anesthesia and postoperative intensive care. **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve patient care based on constant self-evaluation and life-long learning. **2-3-2-D**. Participate in clinical audit and research projects. **2-3-2-E-** Practice skills of evidence-based Medicine (EBM). **2-3-2-G-** Design logbooks. **2-3-2-H-** Design clinical guidelines and standard protocols of management. **2-3-2-I-** Appraise evidence from scientific studies related to the patients' health problems.

2-4-B- Use competently all information sources and technology to improve his practice.	**2-3-2-J-** Apply knowledge of study designs and statistical methods to the appraisal of clinical studies. **2-3-2-K**- Use information technology to manage information, access on-line medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	**2-3-2-F-** Educate and evaluate students, residents and other health professionals.
2-4-D- Master interpersonal and communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	**2-3-2-L**- Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:- • Present a case. • Write a consultation note. • Inform patients of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible medical records. • Teamwork skills. **2-3-2-M-** Create and sustain a therapeutic and ethically sound relationship with patients. **2-3-2-N**- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-O-** Work effectively with others as a member or leader of a health care team or other professional group.
2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-P-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-Q-** Demonstrate a commitment to ethical principles including

	provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices. **2-3-2-R-** Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value. **2-4-G**- Participate in improvement of the education system.	**2-3-2-S-** Work effectively in health care delivery settings and systems related to Anesthesia and postoperative intensive care including good administrative and time management. **2-3-2-T-** Practice cost-effective health care and resource allocation that does not compromise quality of care. **2-3-2-U-** Advocate for quality patient care and assist patients in dealing with system complexities. **2-3-2-V-** Design, monitor and evaluate specification of under and post graduate courses and programs.
2-4-H- Demonstrate skills of leading scientific meetings including time management	**2-3-2-W-** Act as a chair man for scientific meetings including time management **2-3-2-S-** Work effectively in health care delivery settings and systems related to Anesthesia and postoperative intensive care including good administrative and time management.
2-4-O- Demonstrate skills of self and continuous learning .	From A to H

III-Program matrix
Knowledge and understanding

Course	Program covered ILOs				
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E
Course 1 : Medical statistics		✓			
Course 2 : Research Methodology		✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research			✓		
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)	✓				
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1 : Medical statistics			✓	✓				✓	
Course 2 : Research Methodology			✓	✓				✓	
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								✓	
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)	✓	✓							
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Course 1 : Medical statistics								
Course 2 : Research Methodology								
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				✓
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)								
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓	✓

Course	Program covered ILOs						
	2/3/1/I	2/3/1/J	2/3/1/K	2/3/1/L	2/3/1/M	2/3/1/N	2/3/1/0
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research	✓						✓
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)							
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H
Course 1 : Medical statistics		✓						
Course 2 : Research Methodology		✓		✓	✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								
Course 4 Anesthesia and Intensive Care 1(Pharmacology & Physiology & Physics and Clinical Measurements)								
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O	2/3/2/P
Course 1 : Medical statistics	✓	✓	✓					
Course 2 : Research Methodology	✓	✓						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓				
Course 4 Anesthesia and Intensive Care 1(Pharmacology & Physiology & Physics and Clinical Measurements)			✓	✓				
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/Q	2/3/2/R	2/3/2/S	2/3/2/T	2/3/2/U	2/3/2/V	2/3/2/W
Course 1 : Medical statistics							
Course 2 : Research Methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research							
Course 4 Anesthesia and Intensive Care 1(Pharmacology& Physiology & Physics and Clinical Measurements)	✓		✓				
Course 5: Anesthesia and intensive care 2	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department information

-Post operative ICU 8 beds
-General ICU 10 beds
-Trauma ICU 15 beds
-Pediatric ICU 5 beds
- Obstetric ICU 8 beds
- 10 operative rooms

Staff members:

Head of the Department: Prof. Hany Ahmed Ibrahim El Morabaa

Staff members:

1- Prof. Abdel-Hamid Hassan El-Baz
2- Prof. Mahmoud Abdel-Aziz Aly Khalifa
3- Prof. Safia Abdel-Hamid Moustafa
4- Prof.Mohammed Abdel- Moneim Bakr
5- Prof.Samira Mohammed Ahmed Omar
6- Prof.Ahmed Mohammed Ahmed Mohareb
7- Prof.Golnar Mohammed Fathy
8- Prof.Mohammed Gomaa Almaz
9- Prof.Laila Hassan Mohammed
10- Prof.Hassan Lbrahim Mohammed Kotb
11- Prof.Kilani Ali Abdel- Salam
12- Prof.Mohammed Reda Abd- Elaziz Morsi
13- Prof.Fatma Gadel-Rab El- sayed Askar
14- Prof.Nawal Abdel-Aziz Gadel-Rab
15- Prof.Kawser Hefney Mohammed
16- Prof.Sanaa Abd-allah Aly El-Kady
17- Prof. Hamdy Abbas Yousef
18- Prof. Mohammed Mohammed Abdel- Latif
19- Prof. Esam Sharkawy Abd-Allah
20- Prof. Zain El-Abdin Zareh Hassan
21- Prof. Hany Ahmed Lbrahim El-Moraba
22- Assist. Prof Fatma Ahmed Abdel-Al
23- Assist. Prof. Nagwa Mostafa Ibrahim
24- Assist. Prof Sherif Sayed Abdel-Rihim
25- Dr.Allaa Ahmed Ateya
26- Dr.Ayman Ahmed Mamdooh
27- Dr.Gehan Ahmed Sayed
28- Dr.Esam El-Din Mohammed Abd-Alah

29- Dr.Ola Mahmoud Wahba
30- Dr.Khaled Mohamad Morsy
31- Dr.Halla Mohammed Hashem
32- Dr.Sayed Kaoud Abd Elshafy

The operative lists achieved by the whole anesthetic team in our hospital per week include:

1] Plastic surgery (average of 40 cases per week in the lists)
2] Vascular surgery (average of 15-20 cases per week in the lists)
3] Neurosurgery (average of 15-20 cases per week in the lists)
4] Cardiothoracic surgery (average of 6 cases per week in the lists)
5] ENT and Ophthalmic surgery (average of 40 cases per week in the lists)
6] Orthopedic surgery (average of 70 cases per week in the lists)
7] Obstetrics and Gynecological surgery (average of 15-20 cases per week in the lists)
8] Genitourinary tract surgery (average of 50 cases per week in the lists)
9] General Surgery (average of 50 cases per week in the lists)
10] Endoscopic Surgery (average of 15-20 cases per week in the lists)
11) Pediatric general surgery (average of 20-25 cases per week in the lists)
!2) Pediatric open Heart surgery (average of 4 cases per week in the lists)
13) Trauma surgery (average of 50-60 cases per week in the lists)

Department quality control insurance for completing the program

- Evaluation by the Department head and stuff members.
- Regular assessments.
- Log book monitoring.
- Recent equipment and Specialized Units.

(End of the program specifications)