Medical Doctorate (M.D.) Degree Program and Courses Specifications for

FORENSIC MEDICINE AND CLINICAL TOXICOLOGY

(According to currently applied Credit point bylaws)

Forensic Medicine and Clinical Toxicology Department
Faculty of medicine
Assiut University
2022-2023

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M. D. degree of *Forensic Medicine and Clinical Toxicology*

A. Basic Information

- **Program Title:** M. D. degree of Forensic Medicine& Clinical Toxicology
- **Nature of the program: Single.**
- **Responsible Department:** Department of Forensic Medicine& Clinical Toxicology - Faculty of Medicine- Assiut University.
- **Program Academic Director (Head of the Department):**
  Randa Hussein Abdelhady

Coordinator (s):

Principle coordinator: **Prof.Dr :**Safaa Maher Goerge
Assistant coordinator (s) Sal yYehia
Internal evaluators: **Prof.Dr** Wafaa M Abd elmoniem

External evaluator:

1 **Prof.Dr.** Safaa Yossef. Alazahar University
2 – Prof.Dr. Madeeha W. Mohammed. Zagazig University
3 – Prof.Dr. Sawsan Shalaby**.** Ein Shams University

- **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 + 2 elective courses**

B. Professional Information

1- Program aims

1/1 To introduce candidates to the basics of scientific medical research and its ethics.

1/2. To know principles of medical ethics and malpractice.

1/3 To enable students to improve their critical appraisal skills; in forensic cases, designing a toxicology study and health care of toxicological cases and to interpret their findings appropriately.

1/4. Professional skills in application of knowledge and understanding of selected Forensic problems and management of poisoning cases to undertake complex evaluative procedures in associated laboratory diagnostic tests and techniques.

1/5. By the end of the module students will be able to:

- Understand the basis of Forensic Medicine and Clinical Toxicology.
- Pursue higher studies and subspecialties.
- Understand and get the best of published scientific research and do their own.
- Have an in-depth knowledge of the principles of clinical Toxicology.
- Be proficient in experimental design of toxicology study, bioinformatics, data mining and interpretation.
- Demonstrate skills in oral and written presentation and in critical review of the literature.
- Become familiar with the terminology and problems of Forensic medicine.
- Provide an understanding of quality assurance issues in the diagnostic setting.
- Develop a systematic understanding, critical awareness and skills in management of toxicological cases.
- Develop a critical evaluation of techniques used for the diagnosis and monitoring of poisoned patient.
- Perform a research project design and analysis.

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 his specialty as well as the evidence – based application of this knowledge to practice including 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 Forensic Medicine and Clinical Toxicology .

D. Mention principles and measurements of quality assurance and quality improvement in medical education and in practice of the concerned specialty.

E. Mention public health and health policy issues relevant to this specialty and principles and methods of system –based improvement of related to his practice in the field of Forensic Medicine and Clinical Toxicology .

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to the Forensic Medicine and Clinical Toxicology related conditions / problem / topics.

B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to relevant situations related to Forensic Medicine and Clinical Toxicology.

C. Plan research projects.

D. Write scientific paper.

E. Participate in clinical or laboratory risk management activities as a part of clinical governance.
F. Plan for quality improvement in the field of medical education and practice in his specialty.
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 the specialty.

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Master practical skills relevant to that specialty for all common techniques and /or experiments including.

B. Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency including.

C. Master proficiency in performing available complex laboratory techniques and handling unexpected complications including.

D. Gather essential and accurate information about practical/laboratory skills of the specialty related conditions including.

E. Make informed decisions about diagnostic laboratory tests for the specialty related conditions including.

F. Develop and carry out diagnostic and teaching plans for all specialty related conditions / skills including.

G. Use information technology to support practical decisions and students education in all specialty related practical situations including.

H. Provide health care or any relevant services aimed at preventing the specialty related health problems (if applied) including.

I. Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in specialty related conditions including.

J. Write competently all forms of professional reports related to the specialty (lab reports, experiments reports,) including reports evaluating these charts and sheets.

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 practice including service provision to patients in the different areas of his field.

B. Appraise scientific evidence.

C. Continuously improve his practice including service provision to patients based on constant self-evaluation and life-long learning.

D. Participate in medical audits and research projects.

E. Practice skills of evidence-based Medicine (EBM).

F. Educate and evaluate students, mentors and other health professionals.

G. Design logbooks.

H. Design guidelines and standard protocols for different techniques and procedures.

I. Apply knowledge of study designs and statistical methods to the appraisal of specialty related studies

J. Use information technology to manage information, access on- line medical information; for the important topics.

Interpersonal and Communication Skills

K- 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.

L. Create and sustain a therapeutic and ethically sound relationship with patients.

M. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.

N. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

O. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.

P. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

Q. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

R. Work effectively in academic and health care delivery settings and systems related to specialty including good administrative and time management.

S. Practice cost-effective services provision and resource allocation that does not compromise quality.

T. Advocate for quality patient care and assist patients in dealing with system complexities.

U. Design, monitor and evaluate specification of under and post graduate courses and programs.

V. Act as a chair man for scientific meetings including time management

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

Academic standards for Medical Doctorate (MD) degree in Forensic Medicine and Clinical Toxicology

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 3/2010.These standards were revised and approved without changes by the Faculty Council on 23-9-2014.These standards were recently revised and reapproved without changes by the Faculty Council on 27-11-2022.

4- Program External References

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

2-(Academic Reference (s) related to specialty for program specification different from the above mentioned reference).

3-www.National Association of Medical Examiners (name).org

4-.www.forensicscience.ufl.edu/idex.php?/programs/cert_clitox.

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 courses	10	4.1%
Humanity and social courses	3	1.2%
Specialized 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 essential 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 essential 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 specialized science 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 exams of each course and 60% of summation of the written exams, oral and clinical exams of each course

Total degrees 1700 marks.

500 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical and oral exams 30% - 60%.

D. Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Credit points		
		didactic #	training	total
First Part				
Essential Courses (10 CP) Course 1: Medical Statistics Course 2: Research Methodology Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research Course 4: Planning of Toxicological Studies	 FAC309A FAC309B FAC310C FMT310A	 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	Specialized courses 24 CP Specialized Clinical Work (log Book) 123 CP			
Specialized Courses **Course 5 " Forensic Medicine and Clinical Toxicology**	FMT310B	24		24
Specialized Clinical Work (123 CP)	FMT310B		123	123
Total of second part		24	123	147

#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.

Course 5 " Forensic Medicine and Clinical Toxicology

Units' Titles' list	% from total	Level (Year)	Core Credit points		
			Didactic	training	Total
Unit 1: Clinical Toxicology	50%	1,2,3&4	12	61.5	73.5
Unit 2: Forensic medicine	50%	1,2.3$4	12	61.5	73.5
		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 specialty.**
  - **II. Specific Requirements:**
    - **Fluent in English (study language)**
    -

VACATIONS AND STUDY LEAVE
The current departmental policy is to give working working assistant lecture 3 week 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 essential, elective and specialized 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**
Clinical: **Long/short cases** **OSCE**	**K ,I, P &G skills**
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					
Essential 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
Planning of Toxicological Studies Paper 1 Paper 2	FMT310A	 100 100	100	50	350
Total of the first part					500
Second Part					
	Course code	written	Oral *	Practical / Clinical Exam	total
Specialized Courses					
* "" **Forensic Medicine and Clinical Toxicology** Paper 1 Paper 2 Paper 3 Paper 4	FMT310B	 150 150 150 150	300	300	1200
Total of The second part		600	300	300	1200
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

Course 5 " Forensic Medicine and Clinical Toxicology

Units' **(Module)**Titles' list	% from total Marks	Degrees			
		Written Exam	Oral Exam *	Practical / Clinical Exam	Total
Unit 1:Clinical Toxicology	**50%**	300	150	150	600
Unit 2:Forensic medicine	**50%**	300	150	150	600
	2	600	300	300	1200

* 25% of the oral exam for assessment of logbook

500 marks for first part
1200 for second part
Written exam 50% (600 marks)
Clinical and oral exams 50% (600 marks)
Elective courses 200

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 two paper 3 hours for each in Planning of Toxicological Studies + oral exam +Practical exam

Second part:

- Written exam four papers 3 hours for each in Forensic Medicine and Toxicology 2 + Oral exam+ 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	#
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. Safaa Maher GOERGE**		
▪ **Head of the Responsible Department (Program Academic Director):**	**Prof. Randa Hussein Abdelhady**		

Annex 1, Specifications for Courses / Modules

First Part

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

Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Name of department:
Forensic medicine and clinical toxicology
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Specialty: *General medicine, Special medicine, Pediatrics, Public health, Oncology, Rheumatology and Forensic Medicine* (1st part).**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**

- **Coordinator (s):**
  - **Course coordinator:**
    Prof. Ghada omeran&Prof. Safaa Maher Goerge
  - **Assistant coordinator (s) Assist.**
    Prof. Amal Ali.Mohammed

- **Date last reviewed:4-2022.**

- **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 General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology

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	Oral &Written exam
B. Present case, seminars in toxicological cases	Lecture and discussion	Oral &Written exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Reading Discussion
B. Prepare and write consent.	Lecture and discussion	Reading Discussion
C. Identify medical responsibilities.	Lecture and discussion	Reading Discussion
D. Write death certificate.	Lecture and discussion	Reading Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Reading Discussion and active participation
F. Perform gastric lavage, induce emesis, and obtain samples.		
G. Write medical and toxicological reports	Lecture and discussion	Reading Discussion and active participation
H. Develop and carry out patient management plans for Euthanaesia, and Organ		

Transplantation		
I. Counsel patients and their families about specialty related conditions including Permanent infirmities, Euthanasia, and Organ Transplantation		

D general skills

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**
Suspicious death. Death and death certificate.	B,C	A	D,E	A
1. Supportive measures	A		G	A,D,E
2. Toxicological reports	D,F	B	G,F	A,E
3. Ethics in research.	A		A	
4. Medical ethics.	E		A,B,C,H,I	B,C,D

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 (35 for 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

- Ballantyne B., Marrs T. and Syversen T.(1999):General and Applied Toxicology.2nd edition. MACMILLAN REFERENCE LTD.UK.

- Bernard Knight and Pekka Saukko (2004): Knight Forensic Pathology. Hodder Arnold press

iii. Recommended books

- Klassen D. (2001): Casarettand Doull s. Toxicology the basic science of poisons. McGrow. Hill press medical publishing division New York

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.

8. Signatures

- Course Coordinator: **Prof. Ghada Omeran** **Prof. Safaa maher goerge**	**- Head of the Department:** **Prof. Randa Hussein Abdel Hady**
Date: 4-2022	**Date: 4-2022**

Course 4: Planning of Toxicological Studies

Forensic Medicine and Clinical Toxicology department:
Faculty of medicine
Assiut University
2022-2023

1. Course data

- **Course Title: Planning of Toxicological Studies.**
- **Course code:** FMT310A
- Specialty: Forensic Medicine and Clinical Toxicology
- **Number of credit points: 7credit point**
- **Department (s) delivering the course:** Forensic Medicine and Clinical Toxicology
- **Coordinator (s):**
  - **Course coordinator: Prof.Dr. Safaa Maher GOERGE**
  - **Assistant coordinator (s) Prof.Dr.** Wafaa M.Abd El Moneim
  - **Prof.Dr. Aml.A. Mohamed**
- **Date last approved by the Faculty Council: March 2013**
- **Requirements (prerequisites) if any :**

-None

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

- **To define:**
  1. Differences between types of the study (acute – subacute – chronic – subchronic studies).
  2. Types of organs selected in each type of study (experimental study).

3. Course intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Evaluation*
A. Illustrate principles of: • Types of studies and their design • The right animal for certain type of study and its duration to take toxins. • Administration of toxins and how to estimate substance toxicity • Collection of Toxicological samples for hematological, and biochemical studies • How to collect organs for pathological studies. • Definition, Teratogenic effects of some toxins and how to make design. • Carcinogenic effects of some toxins and how to estimate it. • Quality assurance in toxicological studies. • Occupational hazards in toxicology labs.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
B. Demonstrate - Physiologic Principles - Hematological principles - Biochemical principles		

- Carcinogenic principles - Teratogenic principles - Pharmacological principles″ of different toxicological drugs". - Quality assurance in toxicological studies. • -Occupational hazards in toxicology labs • A Pharmacological principles of toxins and how to perform its toxicity - Pharmacological principles of antidotes and how to antagonize the effects of toxins. - Pharmacological principles of teratogenic toxins - Pharmacological principles of carcinogenic toxins and how it they perform their actions -Pathological principles of organs affected by toxins, and the most affected organ for each type of toxins - The best organs to be taken as a sample to estimate the effects of toxins and how to select -Type and most appropriate stain for each type of organs and how to select to demonstrate the effects of this types of toxins	

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case, seminars in common problem.	Didactic (lectures, seminars, tutorial)	Written and oral examination Log book
B. Apply the facts of basic sciences, which are appropriate to : -Design different types of study. a. Carcinogenic case studies. b. Pathological criteria of organ toxicity c. Hematological criteria of toxins d. Antidotal studies e. Teratogenic case studies		
C. Demonstrate an investigatory and analytic thinking (problem solving) approach to Different toxicological studies (acute – subacute – chronic – subchronic studies).		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the course: - Hematological tests - Pathological stains	-Lectures -Books -journals -Tutorials - Seminars -Case study	Written, oral practical examination Log Book
B. Perform the following non invasive/invasive procedures/ experiments - Carcinogenic studies - Teratogenic studies - Antidotal tests		
C. Counsel and educate students about Design of Toxicological study related conditions/ laboratory skills: - Types of study Experimental acute study Experimental chronic study Experimental subchronic study Experimental of antidotal study - Hematological tests - Pathological stains - Carcinogenic studies - Teratogenic studies - Quality assurance in toxicological studies. -Occupational hazards in toxicology labs		
D-Provide health care services aimed at preventing the following conditions - teratogenic problems - carcinogenic problems		

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	Oral exam Logbook

Interpersonal and Communication Skills

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

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

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

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
• Types of studies and their design • The right animal for certain type of study and its duration to take toxins. • administration of toxins and how to estimate substance toxicity • Collection of Toxicological samples for hematological, and biochemical studies • How to collect organs for pathological studies. • Definition Teratogenic effects of some toxins and how to make design. • Carcinogenic effects of some toxins and how to estimate it. • Quality assurance in toxicological studies. • Occupational hazards in toxicology labs.	A	A-C	A -D	A-D

- Physiologic Principles - Hematological principles - Biochemical principles - Carcinogenic principles - Teratogenic principles - Pharmacological principles″ of different toxicological drugs". - Quality assurance in toxicological studies. • -Occupational hazards in toxicology labs • A Pharmacological principles of toxins and how to perform its toxicity - Pharmacological principles of antidotes and how to antagonize the effects of toxins. - Pharmacological principles of teratogenic toxins - Pharmacological principles of carcinogenic toxins and how it they perform their actions -Pathological principles of organs affected by toxins, and the most affected organ for each type of toxins - the best organs to be taken as a sample to estimate the	B	A-C	A -D	A-D

effects of toxins and how to select -Type and most appropriate stain for each type of organs and how to select to demonstrate the effects of this types of toxins				

5. Course Methods of teaching/learning:

1. Lecturers
2. Seminars
3. Books
4. Journals
5. Tutorials
6. Seminars
7. Case study

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

1. Extra didactic (lectures, seminars, tutorial)
2. Extra Computer laboratory

7. Course assessment methods:

i. Assessment tools:

-Written
-Oral
-Practical examination
-Log Book

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

i. **Marks:** 350

8. List of references

i. Lectures notes

- Course notes.

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

ii. Essential books

Ballantyne B., Marrs T. and Syversen T. 2009: General and Applied Toxicology.. MACMILLAN REFERENCE LTD.UK.

ii. Recommended books:

- Postmortem toxicology of the abused drug,2007, Steven B. Karch, MD, FFFLM

iv. Periodicals, Web sites, … etc

a. **Periodicals,**

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.

b-Web sites

- 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

9. Signatures

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

Second part

Course 5- Forensic Medicine and Clinical Toxicology

1. Course data

- **Course Title: Clinical Toxicology**
- **Course code: FMT310B**
- Specialty: Forensic Medicine and Clinical Toxicology
- **Number of credit points:** 24 credit point for didactic (lectures, seminars, tutorial) and 123 point for training.
- **Department (s) delivering the Unit :** Department of Forensic Medicine and Clinical Toxicology - Faculty of Medicine- Assiut- EGYPT

This Course consist of 2 units :

Unit 1 : Clinical Toxicology (12 credit point for didactic and 61.5 for training)

Unit 2 : Forensic Medicine (12 credit point for didactic and 61.5 for training)

- **Unit 1 Coordinator (s):**
  - **Prof.Dr. Safaa Maher Goerge**
  - **Assistant coordinator (s) Prof.Dr. Wafaa M. abd elmoniem…**
    Ass prof Dr. Aml.A. Mohamed
- **Unit 2 Coordinator: Prof.Dr Safaa Maher Goerge**
  - **Assistant coordinator (s) Prof.Dr.** Wafaa M.Abd El Moneim
    Prof.Dr. Aml A Mohamed
- **Date last approved by the department Council: 4-2022**

Requirements (prerequisites) if any :

None

- **Requirements from the students to achieve Unit ILOs are clarified in the joining log book.**

2. Course Aims

1-Provide an extensive, compact review of "need to know" toxicology management material for all health providers
2- Prepare Specialists in Poison Information
3- To provide the candidate with active participation in
a) Review of medical history and circumstances of death.
b) Preparation of written descriptions of the gross and microscopic Findings.
c) Development of an opinion regarding the cause of different deaths.

3. Intended learning outcomes (ILOs):

Unit 1 Clinical Toxicology

A-Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Demonstrate Principles/details of Corrosive toxicity Heavy metals toxicity Volatile toxicity Gaseous toxicity Plant toxicity CNS toxicity - Organophosphorous toxicity - Animal and food toxicity - Antidepressant toxicity - Antihistaminic toxicity - Hydrocarbons toxicity - Endocrine toxicity - Vitamins toxicity - Cardio-toxicity - Gastrointestinal toxicity - Renal toxicity and rhabdomyolysis.	Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

- Mycotoxins - Designer drugs - Drugs and Athletes - Air pollution - Scorpion and Snake toxicity - Treatogenecity - Food additives - Geriatric toxicity - Neonatal toxicity. - Drugs of abuse - Body fluid analysis (blood, saliva, semen, vaginal secretions, sweat, …etc) - Hair and fiber analysis. - Modern spectroscopic methods (infra red, ultraviolet visible and fluorescence) - DNA analysis.		

B-Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Apply the facts of basic sciences, which are appropriate to Forensic Medicine and Clinical Toxicology in clinical reasoning, diagnosis of different toxicological cases.	Didactic (lectures, seminars, tutorial	-Written and oral examination - Log book
B. Apply clinically supportive sciences which are appropriate to common toxicological cases.		
C. Demonstrate an investigatory and analytic thinking (problem solving) approach to common toxicological cases.		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following basic lab skills essential to Diagnose different types of poisonous substances and drugs which operate on human body (including corrosives, heavy metals, volatile, gaseous, plant alkaloids, central nervous system, pesticides, animal, food, antidepressants and antihistaminic poisoning as regard classification, mechanism of action, clinical features of toxicity, circumstances, diagnosis and clinical management	Seminars -Case study	Written, oral examination Log Book
B. Perform the advanced lab skills essential for dependence producing substances and drugs.		
C. Use instruments and devices in evaluation of the above conditions		
D. Perform the following basic experiments in related basic sciences to be utilized in the research work: dependence producing substances and drugs.		
E. Use information technology to support decisions in common situations related to Clinical Toxicological Study		
F. Develop and carry out diagnostic and teaching plans for all Clinical Toxicological Study related conditions / skills		
G. Counsel and educate students about clinical Toxicological study related conditions/ laboratory skills		

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	Oral exam Logbook

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	-Log book -Chick list Oral exam

Professionalism

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

Unit 2 Forensic Medicine

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe different clinical conditions and diseases related to the course. - Personal identification of living and dead human bodies. - Examination of blood stains. -Medicolegal aspects of death and postmortem changes. - General and special types of wounds. - Head injuries. - Firearm injuries. - Injuries due to physical agents. - Asphyxia. - Medicolegal aspects of pregnancy, delivery., abortion , infanticide , Child abuse and Sexual crimes. - DNA analysis of body fluids and tissues- - Postmortem Artefacts - Domestic violence - Death associated with surgical procedures - Scene of the crime - Plan for mass disaster - Death certificate -Medical Ethics. - Obligation of physicians towards patients, colleagues, community.- Types and items of consent and professional secrecy. -Malpractice responsibility. - Medicolegal aspects of organ transplantation, intersex, euthanasia, and assisted reproductive technique - Ethical considerations of medical research involving human subjects.	--Didactic (lectures, seminars, tutorial) -Clinical rounds -Seminars -Clinical rotations -Service teaching	Written, oral, and Log Book
B. Mention the details of different diagnostic tools of diseases related to Forensic medicine.		
C. State update and evidence based Knowledge related to the course: - DNA analysis of body fluids and tissues		
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to related to Forensic medicine.		
E. Mention the basic ethical and medico legal principles		

revenant to the specialty.		
F. Explain the basics of quality assurance to ensure good professional skills in his field.		
G. Mention the ethical and scientific principles of medical research		
H. Explain the impact of common health problems in the field of related to Forensic medicine on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case, seminars in common problem related to Forensic 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 specialty related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Forensic Medicine		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to Forensic Medicine.		
G. Plan for quality improvement in the field of medical education and professional practice in Forensic Medicine.		
H.Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
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 the Forensic Medicine.		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the course: -Personal identification of living and dead human bodies. - Examination of blood stains. -Death and postmortem changes. -General and special types of wounds. - Head injuries -Firearm injuries -Asphyxia. - Injuries due to physical agents. -Pregnancy and delivery- Abortion -Infanticide - Child abuse - Sexual crimes. - Death associated with surgical procedures	-Didactic (lectures, seminars, tutorial) -Clinical rounds Clinical rotations (service teaching)	log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year
B. Perform the advanced lab skills essential to the course	Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops -Perform under supervision of senior staff	Procedure presentation - Log book
C. Use instruments and devices in evaluation of Make informed decisions about the diagnostic laboratory tests for the specialty related conditions.		
D. Interpret the non invasive/invasive procedures/ experiments related to Forensic Medicine.		
E. Perform the non invasive/invasive procedures/		

experiments related to Forensic Medicine.		
F. Perform the basic experiments in related basic sciences to be utilized in the research work:		
G. Use information technology to support decisions in common situations related to Forensic Medicine		
H. Develop and carry out diagnostic and teaching plans for all Forensic Medicine related conditions / skills		
I. Counsel and educate Counsel and educate students, technicians and junior staff, in the lab about conditions related to Forensic medicine.		
J. Use information technology to support decisions in common conditions related to the Forensic Medicine .		
K. Provide health care services aimed at preventing conditions related to the Forensic Medicine.		
L. Work with health care professionals, including those from other disciplines, to provide patient-focused care.		
M. Write and evaluate competently all forms of reports related to the Forensic Medicine.		

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 (plan and conduct audit cycles)	oral communication Senior staff experience	Written, practical, oral and clinical examination. Log Book
B. Locate, appraises, and assimilates evidence from scientific studies related to health problems.		
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies		
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

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with the staff members and the members in other faculties of the legal authority.	Seminars Lectures Hand on workshops	Log book Senior staff follow up and opinion
G. Perform the following oral communications: Method of writing medical reports		
H. Fill the following reports: Death certificate Medical reports.		
I. Work effectively with others as a member or leader of a health care team in autopsy performing.		

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	Log book Senior staff follow up and opinion
K. Demonstrate a commitment a commitment to ethical principles in safeguard of the confidentiality.		
L. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in different systems as like staff and legal authority during: autopsy.	Observation Senior staff experience	Log book Senior staff follow up and opinion
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		
O. Advocate for quality patient care and assist patients in dealing with system complexities		
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		

4. Course contents (topic s/modules/rotation
Unit(1) Matrix

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Unit 1				
- Corrosive toxicity - Heavy metals toxicity - Volatile toxicity - Gaseous toxicity - Plant toxicity - CNS toxicity - Organophosphorous toxicity - Animal and food toxicity - Antidepressant toxicity - Antihistaminic toxicity - Hydrocarbons toxicity - Endocrine toxicity - Vitamins toxicity - Cardio-toxicity - Gastrointestinal toxicity - Renal toxicity and rhabdomyolysis. - Mycotoxins - Designer drugs - Drugs and Athletes - Air pollution - Scorpion and Snake toxicity - Treatogenecity - Food additives - Geriatric toxicity - Neonatal toxicity. - Drugs of abuse	A	A-C	A-G	A-D

- Body fluid analysis (blood, saliva, semen, vaginal secretions, sweat, …etc) - Hair and fiber analysis. - Modern spectroscopic methods (infra red, ultraviolet visible and fluorescence) - DNA analysis.				
Unit 2				
- Personal identification of living and dead human bodies. - Examination of blood stains. -Medicolegal aspects of death and postmortem changes. - General and special types of wounds. - Head injuries. - Firearm injuries. - Injuries due to physical agents. - Asphyxia. - Medicolegal aspects of pregnancy and delivery. - Medicolegal aspects of abortion. - Medicolegal aspects of infanticide - Medicolegal aspects of Child abuse. - Medicolegal aspects of Sexual crimes. - DNA analysis of body fluids and tissues. - Barotrauma - Postmortem Artefacts - Domestic violence - Death associated with surgical procedures	A-H	A-J	A-M	A-P

- Scene of the crime - Plan for mass disaster - Death certificate Medical Ethics: - Obligation of physicians towards patients, colleagues, community. - Types and items of consent and professional secrecy. -Malpractice responsibility. - Medicolegal aspects of organ transplantation, intersex, euthanasia, and assisted reproductive techniques. - Ethical considerations of medical research involving human subjects.				

5. Unit methods of teaching/learning:

1. Lectures on specific topics**.**
2. Practical classes.
3. Demonstrations**.**
4. Scientific meetings

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

1. Extra didactic (lectures, seminars, tutorial).
2. Extra Computer laboratory

7. Unit assessment methods:

i. Assessment tools:
-Written,
-Oral
-Practical and or clinical examination
-Log Book
ii. Time schedule: At the End of second part
iii. Marks: 1200 marks

8. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.
- Principles of Forensic Medicine and Clinical Toxicology Book by Staff Members of the Department of Forensic Medicine and Clinical Toxicology -Assiut University.

ii. Essential books

- **Gossel, T. and Bricker, T. (1990):** Principles of Clinical Toxicology. 2nd edition, USA.
- **Hadad,L., Shannon,M. and Winchester,J.(1998):** Clinical Management of Poisoning and drug overdose.3rd edition,Saunders Company,USA.
- **Saukko, P. and Knight, B.(2004):** Knight's Forensic Pathology,3rd edition, Arlond Company, U.K., and Oxford University Press Inc.,USA.
- 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

- **Gold Frank,L., Flwenbaum,N., Lewin,N., Weisman ,R., Howland,M. and Hoffman, R. (2002):**Toxicological Emergency.7th edition, Mc GrawHill Company, USA.

- **Dart,R.C.(2004):** Medical Toxicology,1st edition, Lippincot Williams&Wilkins Inc., USA.
- **Ballantyne B., Marrs T. and Syversen T.(1999):**General and Applied Toxicology.2nd edition. MACMILLAN REFERENCE LTD.UK.
- **Krishan-Vig (2006):** Text Book of Forensic Medicine, Principles and practice, 3rd edition, Elsevier Publisher Inc., USA.
- **Veatch,R,M.(1997):**Medical ethics.2nd edition, Jones&Barlett Publishers,Sudbury Massauchutts,USA.
- **Karch S.**(2008): Postmortem Toxicology of Abused Drugs. CRC Press.Taylor & Francis Group.U.S.A.
- **Saukko, P. and Knight, B.(2015):** Knight's Forensic Pathology,4rd edition, Arlond Company, U.K., and Oxford University Press Inc.,USA.

iv. Periodicals, Web sites, … etc

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- 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.
Legal Medicine.

- Websites:

http://library.med.utah.edu/WebPath/FORHTML/FORIDX.html
http://www.bloodspatter.com/BPATutorial.htm
http://www.forensicmed.co.uk/

- 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.

vi. Others

9. Signatures

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

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Forensic Medicine and Clinical Toxicology

***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 medical audit in the chosen field of medicine.

2- Have continuous ability to add knowledge to the speciality through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve practical skills.

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

5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to speciality.

6- Identify and create solutions for health problems related to his specialty.

7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to 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 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 his field of practice.

11- Show leadership responsiveness to the larger context of the related health care systems, including the organisation,

partnership with health care providers and managers, and resource allocations.

12- Demonstrate in depth awareness of public health and related 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 the speciality or one of its subspecialties.

15- Use recent technologies to improve his practice in the speciality field.

16- Share in updating and improving practical practice in the speciality field.

2- Competency based Standards for medical doctorate in Forensic Medicine and Clinical Toxicology medicine.

2.1- 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 specialty and relevant sciences.

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

2-1-C- Ethical and medicologal principles of medical practice related to specialty field.

2-1-D- Principles and measurements of quality in the specialty field.

2-1-E- Principles and efforts for maintaining 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 specialty related problems.

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

2-2-C- Involvement in research studies related to the specialty.

2-2-D- Writing scientific papers.

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

2-2-F- Planning for performance improvement in the specialty field.

2-2-G- Creation and innovation in the specialty field.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to the specialty fields.

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- Provide extensive level of practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice.

2-3-B- Master practical / laboratory skills relevant to that specialty.

2-3-C- Write and evaluate reports for situations related to the field of specialty.

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 and improvements of their own practice, appraisal and assimilation of scientific evidence 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, technicians 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 the ability to effectively use system resources to provide relevant services and 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					

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 الطب الشرعي و السموم
I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

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

التخصص	appropriate, effective and compassionate reaction when dealing with problems related to speciality. 7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to application, and possession of skills to manage independently all problems in these areas.
8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية	16- Share in updating and improving practical practice in the speciality field. 9- Function as teacher in relation to colleagues, medical students and other health professions.
9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية	15- Use recent technologies to improve his practice in the speciality field.
10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة	8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to speciality.
11-اتخاذ القرار في ظل المعلومات المتاحة	10- Master decision making capabilities in different situations related to his field of practice.

1- Graduate attributes (Continuous)

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة	11- Show leadership responsiveness to the larger context of the related health care system, including the organisation, partnership with health care providers and managers, and resource allocations.
13-الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة	12- Demonstrate in depth awareness of public health and related health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.
14-التصرف بما يعكس الالتزام بالنزاهة و المصداقية و قواعد المهنة	13- Show model attitudes and professionalism.
15-الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين	14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in the speciality or one of its subspecialties. 15- Use recent technologies to improve his practice in the speciality field.

2- Academic standards

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

2-2-ح- الحوار والنقاش المبني علي البراهين والأدلة	2.2. H- Evidence – based discussion.
2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2. I- Decision making in different situations related to the specialty fields.
2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص	2.3. A- Provide extensive level of practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice. 2.3. B- Master practical / laboratory skills relevant to that specialty.
2-3-ب- كتابة و تقييم التقارير المهنية.	2.3. C- Write and evaluate reports for situations related to the field of specialty.
2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص	2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management.
2-3-د - استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.4. B- Use competently all information sources and technology to improve his practice.
2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين	2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management. 2.4. G- Participate in improvement of the education system.

2- Academic standards <u>(Continues)</u>

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
2-4-أ التواصل الفعال بأنواعه المختلفة	2.4. D- Master interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, technicians and other health professionals.
2-4-ب - استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية	2.4. B- Use competently all information sources and technology to improve his practice.
2-4-ج - تعليم الآخرين وتقييم أداءهم	2.4. C- Master skills of teaching and evaluating others. 2.4.G- Participate in improvement of the education system.
2-4-د - التقييم الذاتي والتعلم المستمر	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. 2.4.0- Demonstrate skills of self and continuous learning.
2-4-هـ - استخدام المصادر المختلفة للحصول على المعلومات و المعارف	2.4. C- Master skills of teaching and evaluating others.
2-4-و - العمل في فريق وقيادة فرق العمل	2.4. F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value.
2-4-ز - إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.H- Demonstrate skills of leading scientific meetings including time management

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate for Forensic medicine and clinical toxicology

(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 specialty 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 specialty as well as the evidence – based application of this knowledge to practice including 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 specialty field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to his practice in the field of.
2-1-D- Principles and measurements of quality in the specialty field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in practice of the concerned specialty.
2-1-E-Principles and efforts for maintaining and improvements of public health.	**2-1-E-** Mention public health and health policy issues relevant to this specialty and principles and methods of system –based improvement of related to his practice in the field of.

Continuous **(ARS)**	**continuous** **(ILOs)**
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other relevant science to solve specialty related problems.	**2-2-A-** Apply the basic and clinically supportive sciences which are appropriate to the specialty 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 relevant situations related to specialty.
2-2-C- Involvement in research studies related to the specialty.	**2-2-C-** Plain 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 or laboratory risk management activities as a part of clinical governance.
2-2-F-Planning for performance improvement in the specialty field.	**2-2-F-** Plan for quality improvement in the field of medical education and practice in his specialty.
2-2-G-Creation and innovation in the specialty 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 the specialty fields.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the specialty.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient care :)***
2-3-A- provide extensive level of practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function extensive level means in depth understanding 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-** Master practical skills relevant to that specialty for all common techniques and /or experiments including.
	2-3-1-B- Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency including.
2-3-B- Master practical/laboratory skills relevant to that specialty	**2-3-1-C-** Master proficiency in performing available complex laboratory techniques and handling unexpected complications including.
	2-3-1-D- Gather essential and accurate information about practical/laboratory skills of the specialty related conditions including.
	2-3-1-E- Make informed decisions about diagnostic laboratory tests for the specialty related conditions including.
	2-3-1-F- Develop and carry out diagnostic and teaching plans for all specialty related conditions / skills including.
	2-3-1-G- Use information technology to support practical decisions and students education in all

	specialty related practical situations including. **2-3-1-H-** Provide health care or any relevant services aimed at preventing the specialty related health problems (if applied) including. **2-3-1-I-** Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in specialty related conditions including.
2-3-C- Write and evaluate reports for situations related to the field of specialty.	**2-3-1-J-** Write competently all forms of professional reports related to the specialty (lab reports, experiments reports,) including reports evaluating these charts and sheets.

Continuous (ARS)	continuous (ILOs)
2-4- General skills	***2/3/2 General skills***
2-4-A- Master Practice-Based Learning and Improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management.	**2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of practice including service provision to patients in the different areas of his field. **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve his practice including service provision to patients based on constant self-evaluation and life-long learning. **2-3-2-D-** Participate in medical audits 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 guidelines and standard protocols for different techniques and procedures.
2-4-B- Use competently all information sources and technology to improve his practice.	**2-3-2-I-** Apply knowledge of study designs and statistical methods to the appraisal of specialty related studies. **2-3-2-J-** 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, mentors and other health professionals.
2-4-D- Master interpersonal and	**2-3-2-K-** Master interpersonal and

communication Skills that result in effective information exchange and teaming with patients, their families, technicians and other health professionals.	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-L-** Create and sustain a therapeutic and ethically sound relationships with patients. **2-3-2-M**- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-N-** 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-O-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-P-** 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-Q-** Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

2-4-F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value. **2-4-G-** Participate in improvement of the education system.	**2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to specialty including good administer and time management. **2-3-2-S-** Practice cost-effective services provision and resource allocation that does not compromise quality. **2-3-2-T-** Advocate for quality patient care and assist patients in dealing with system complexities. **2-3-2-U-** 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-V-** Act as a chair man for scientific meetings including time management **2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to specialty including good administrative and time management.
0- Demonstrate skills of self and continuous learning.	From A to H**.**

II-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 & Ethics in Medical Practice and Scientific Research			✓		
Course 4: Planning of Toxicological Studies	✓			✓	✓
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓

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 & Ethics in Medical Practice and Scientific Research								✓	
Course 4: Planning of Toxicological Studies	✓	✓			✓				
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓	✓	✓

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 & Ethics in Medical Practice and Scientific Research				✓				✓
Course 4: Planning of Toxicological Studies	✓	✓				✓	✓	✓
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓	✓

Patient care

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 & Ethics in Medical Practice and Scientific Research	✓	✓					✓
Course 4: Planning of Toxicological Studies							
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓

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 & Ethics in Medical Practice and Scientific Research								
Course 4: Planning of Toxicological Studies								
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓	✓

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 & Ethics in Medical Practice and Scientific Research				✓				✓
Course 4: Planning of Toxicological Studies		✓	✓					✓
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓	✓

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 & Ethics in Medical Practice and Scientific Research							
Course 4: Planning of Toxicological Studies		✓					
Course 5: Forensic Medicine and Clinical Toxicology	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Staff members:

Name	
Prof	Nassef Nageh Zaki
Prof	Abdel-Wahab Abdel-Karim Dawood
Prof	Afaf Mohamed Ahmed Farghaly
Prof	Nahed A Abdel-Hamid
Prof	Wafaa Mohamed Abdel-Monim
Prof	Ragaa Mohamed Abdel-Maaboud
Prof	Randa Hussein Abdel-Hady
Prof	Hala Mohamed Fathy Ahmed
Prof	Zaghloul Thabet Mohamed
Prof	Hayam Zakaria Thabet
Prof	Saly Yehia Abd-El Hamid
Prof	Aml Ali Mohamed Ali
Prof	Safaa M. George
Prof	Nagwa Mahmoud Ali Ghandour
Prof	Ghada Ali Farghali Omran
Prof	Heba Atia yassa
Dr.	Noura Zeidan
Dr.	Doaa Abd El-Rahman
Dr.	Eman Salah Shaltout
Dr.	Noha Esmael
Dr.	Doaa M. Almaz
Dr.	Asmaa Hassan

- **Opportunities within the department:**

- **Department quality control insurance for completing the program:** Evaluation by the Department head and staff members.
- Regular assessments.
- Log book monitoring.
- Recent equipments and Specialized Units.

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(End of the program specification)