



Program Specification for M.D Degree in:

FORENSIC MEDICINE & CLINICAL TOXICOLOGY

Programm: M.D. degree in Forensic Medicine & Clinical Toxicology.

Programm code: FMCT910FM & FMCT910CT

Department offering the program: Department of Forensic Medicine & Clinical Toxicology

Total credit points: 100

Academic year: 2015/2016

Date of approval: July 2015

Minor element of the programm: Basic Sciences of Forensic Medicine & Clinical Toxicology.

Major element of the programm: Autopsy, Forensic odontology, Forensic Anthropology and Analytical Toxicology & Drug abuse.

Program Coordinators:

Prof. Amany Fahmy Hanon

Lecturer: Samah Fathy Ibrahim

External evaluators: Prof Dr Maha Ghanem, Professor of Forensic Medicine & Clinical Toxicology, Alexandria University.

I. Programm aims

The programm is a professional degree that provides a competent medical examiner that is able to perform adequate ante-mortem (AM) and post-mortem (PM) examination and interpret the different findings to give final expert opinion and formulate competent medico-legal reports to resolve different legal and ethical dilemmas. It provides also an honorable specialist practitioner who is able to diagnose and treat the acutely intoxicated patients under ethical standards. The program also aims to allow the candidates to interact with community problems, to respect ethical values according to community culture, and promote their medical standards through engaging in continuing medical education and introduce them to the basics of scientific medical research.

II. Intended learning outcomes of the programm (ILOs)

A) Knowledge and understanding: By the end of the programm the candidate should;

1. Mention types and recent procedure for forensic autopsy.

2. Recognize and describe the main medico-legal aspects of living and dead individuals regarding recognition, personal identification, different injuries, causes & manner of death, and post-mortem changes.
3. Describe medico-legal aspects of different cases of injuries and sexual offenses.
4. Describe how to collect trace evidence in the scene of the crime.
5. Know how to collect trace evidence in the scene of the crime and identify them.
6. Describe the recent knowledge of forensic serology that deals with different body fluids
7. Recite various medico-legal aspects of malpractice.
8. Understand the medical ethics.
9. Enumerate and describe the different classes of toxic substances and environmental pollutants.
10. Describe the circumstances of intoxication, toxic doses, pharmaco-& toxicokinetics, clinical picture, differential diagnosis and treatment of intoxicated patients.
11. Describe the treatment of acute and emergency situations of intoxicated patients with different drugs and toxic substances especially the recent advance in antidotal studies.
12. Describe recent advance in examination the scene of death in cases of poisoning
13. Recite how to collect samples.
14. Describe the recent analytical and instrumental methods used in investigating crimesdone for the samples collected.
15. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of clinical toxicology.

B) Intellectual skills: By the end of the programm the candidate should be able to;

1. Interpret the different findings to conclude the final medico-legal expert opinion.
2. Analyze case scenario of forensic medicine and toxicology and discuss their medico-legal aspects.
3. Evaluate the medical ethics dilemmas and suggest a proper solution.
4. d) Discuss and analyze the circumstances of intoxication, toxic doses, pharmaco& toxico-kinetics, clinical picture and differential diagnosis of intoxicated patients including emergency cases under ethical standards.
5. Select the proper management for intoxicated patients and addicts.
6. Select the proper technique to reach the proper diagnosis
7. Identify the pathological features of the specimens and differentiate them from normal.
8. Interpret and analyze the data of different investigations in context of the clinical situation.
9. Integrate clinical information and laboratory investigations into management.
10. Conduct research studies that adds to knowledge.
11. Formulate scientific papers in the area of forensic medicine and clinical toxicology
12. Manage scientific discussion administration based on scientific evidences and proofs
13. Criticize researches related to the field of clinical toxicology

C) Professional and practical skills: By the end of the program the candidates should be able to;

1. a) Use different techniques and laboratory investigations to identify living and dead individuals and dead remains.
2. Apply different investigatory methods to Diagnose death.
3. Assess the post mortem changes to determine time of death.
4. Examine different injuries properly to conclude the medico-legal aspects of each case.
5. Reach the cause and manner of death properly.
6. Appraise evidences.
7. Diagnose and treat the acutely intoxicated patients under ethical standards.
8. Design the proper management for intoxicated patients and addicts under ethical standards.
9. Perform laboratory investigations needed properly and successfully.
10. Avoid faults and artifacts of the preparation and results.
11. Deal properly and safely with the equipments.
12. Design final expert opinion and formulate competent medico-legal reports.
13. Acquire the accuracy and attention during practical affairs and during reporting.
14. Realize the keenness to use evidence in the care of the patient.
15. Train junior staff through continuous medical education program.
16. Design new methods, tools and ways of professional practice.

D) General and transferable skills: By the end of the program the candidates should be able to;

1. Communicate with the patients to gain their confidence.
2. Respond effectively to a patient's emotional and psychosocial concerns.
3. Communicate with other health care providers.
4. Appreciate team working.
5. Achieve Computer skills necessary to make use of medical data bases and use the internet for communication.
6. Show administrative skills that enable them to fulfill the research work needed.
7. Assess himself and identify his personal needs.
8. Show leadership skills that enable them to organize work and lead the juniors and paramedical staff.
9. Understand different scientific methodologies and have critical reading abilities.
10. Write scientific article according to the basics of scientific research.
11. Realize the requirements of the Egyptian ministry of health and the regulations of the medical syndicate, concerning the medical ethics code.

III. Academic standards.

Academic Reference Standards:

The academic standards of Forensic medicine and Clinical Toxicology is adopted and accredited by the department Council.

External references for standards:

-Faculty of Forensic & Legal Medicine. Royal college of physicians. London.

-University of Dundee, Scotland.UK.

-University of Maryland. School of Pharmacy.

IV. Programm contents (Syllabus):

Program structure: Total Credit points **100 credit points**

Candidate should fulfill the following:

- Compulsory courses: 18 credit points
 - Forensic Medicine.
 - Clinical Toxicology
 - Medico Legal responsibilities & Malpractice
 - Autopsy
 - Forensic Odontology
 - Forensic Anthropology
 - Analytical Toxicology & Drugs of Abuse

- Elective courses 4 credit points
 - Forgery
 - Human Rights, Torture& Rehabilitation
 - Forensic psychiatry
 - Forensic Entomology
 - Forensic Imaging
 - Research ethics

- Scientific activities 4 credit points

- Training program : 34 credit points
- Thesis: 40 credit points

- **Compulsory courses:**

Courses	Course modules	Credit points	total	ILOs
Forensic medicine	1- Death& postmortem changes Sudden unexpected deaths. Death under anesthesia	0.75	5	1- a, b, d, i.
	2-Wounds & head injuries	0.75		2- a, b, c
	3-Transportation injuries& Mass disasters	0.75		3- a, b, c, d, e, f, j, l, m
	4-Tortoure	0.75		4- d, e, g, h ,j
	5-Firearm injuries	0.5		
	6-Thermal injuries	0.5		
	7-Sexual offences	0.5		
	8-Asphyxia	0.5		
Clinical Toxicology	<i>1-General Toxicology</i>	0.5	5	1- f ,g, h
	<i>2-Household products</i>	0.5		2- e, f, l, j
	<i>3-Metals</i>	0.5		3-g, h, ,j
	<i>4-Plants</i>	0.5		
	<i>5-Doping& Volatiles</i>	0.5		
	<i>6-Analgesics& antipyretics</i>	0.5		
	<i>7-Sedatives</i>	0.5		
	<i>8-Cardiovascular drugs</i>	0.5		

	<i>9-Food & animal poisoning</i>	0.5		
	<i>10-Addiction</i>	0.5		
Autopsy			2	1-e
				2-a, c, h
				3- a, c, d
Medicolegal responsibilities & malpractice.			2	1- e
				2- c
				3- j
Forensic odontology			1	
Forensic anthropology			1	
Analytical Toxicology & drug abuse.	1- Post-mortem detection of poisons.	0.75	2	1- g, i 2-i,k
	2- Analysis of toxic substances.	0.75		
	3- Detection of biological stains, hairs and fibers.	0.75		

• **Elective courses: (Student choose 2 courses only).**

Courses	Credit points	ILOs
Forgery	2	
Human rights, torture & rehabilitation.	2	4- a, b
Forensic psychiatry	2	
Forensic Entomology.	2	

Forensic imaging	2	
Forensic ethics.	2	1- e 2- c 4- j

• **Scientific activities: 4 credit points.** The candidates should participate in the scientific activities of the department such as:

- Journal club every two weeks.
- Seminars (including recent topics and controversial issues) once weekly. Students are expected to participate in the discussions.
- Scientific meetings arranged by the department.
- Attendance of Thesis discussions.

Each activity is monitored and given credit points registered in a special section in the training logbook. The student should collect the required points before allowed to sit for the final exam.

• **Practical & clinical training: 34 points.**

All the candidates should have training for 24 **months**. They should spend at least 6 **months** in poisoning control center, 6**months** in ICU, 6 **months** for forensic chemistry in forensic and toxicology department and 6 months for forensic autopsy in department of legal medicine . During this period the candidates should complete the elective courses.

All candidates should complete the special part of the training program in the Forensic Medicine & Toxicology department. They should spend 18 months in order to acquire the needed credit points. The student is expected to acquire skills in the following: Examination of different injuries, identifying the cause, manner and time of death, concluding the medico-legal opinion, recognizing the medical ethical dilemmas, diagnosing and managing the acutely intoxicated patients. During this period the candidates will attend the courses and will participate in the scientific activities of the department.

• **M.D. Thesis**

All students should prepare a thesis in one of the two domains (forensic or clinical toxicology). The department and the ethical committees must approve the protocol of the research. The thesis should include a review part and a research part. The thesis is supervised by one or more senior staff members of the Forensic and Toxicology Department and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee of three professors including one of the supervisors and an external professor.

V. teaching methods:

Methods used

Lectures

Tutorials

- Slides /data show
- Discussion
- Clinical meetings departmental / interdepartmental

Presentations

- Including clinical case presentations

Independent assignments

- Writing / presenting a literature review article
- Attending and participating in scientific conferences work shops and discussion to acquire the general and transferable skills.
- Field training

Lecture Timetable:

Topic	Hours	lecture	Practical

Facilities required for teaching and learning:

1-ADEQUATE INFRASTRUCTURE:

Including teaching places (teaching clinical class e.g. Mortuary, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.

2- TEACHING TOOLS:

Including equipments e.g. HPLC- MS, drug testing immunoassay it's kits& some chemicals, screens, computers including CD (R/W), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

3- COMPUTER PROGRAM: for designing and evaluating MCQs

List of references

Programm notes:

Lectures notes prepared by the stuff members of the department

Essential books (text books)

Toxicology:

Goldfrank's Toxicologic Emergencies, 8th ed. (for M.D. students).

Forensic Medicine:

Knigh't's Forensic Pathology, 3th ed. (for M.D. students).

Recommended books

External references for standards:

Faculty of Forensic & Legal Medicine. Royal college of physicians. London.

University of Dundee, Scotland.UK.

University of Maryland. School of Pharmacy.

Periodicals, Web sites:

www.forensicmed.co.uk/,

www.dundee.ac.uk/facmedden/bmsc

www.sciencedirect.com

VI. Program admission requirements.

According the Faculty of Medicine, Cairo University Bylaws for Post Graduate Programs (July 2009), applicants should have Master Degree in forensic medicine, clinical toxicology or both of them. All applicants for M.D. degree should fulfill 75% attendance of the lectures as shown in the attendance book. Admission to the program is open during August and January.

Program duration: two years

VII. Regulations for progression and program completion

After accepting the student, the student submits a protocol for M.D. Thesis. Before submitting to the final examination she/he should finish the thesis and get approval, complete special training program, and collect the required credit points. The candidate will receive her/his degree after passing this final examination. In case the student fails to pass the exam, he can resubmit for the next exam. M.D. degree should be obtained within a maximum of 5 years after registration date.

VIII. Assessment

Supervision & Monitoring of the Training Program:

According to the Faculty of Medicine, Cairo University Bylaws for Training Programs, professors carry continuous assessment during the program. A training program logbook will be kept for each student to document all her/his clinical, and laboratory activities as well as her/his participation in different scientific activities. The head of the department should allow the students to undergo the final examination when they complete their training program and collect the credit points needed.

Assessment tools

1. Final Exam

Basic sciences

- Clinical toxicology: Two-hour written exam (including short assay , problem solving and multiple choice questions) + oral exam+ practical exam
- Forensic medicine, forensic odontology and Forensic anthropology : one-hour written exam for each(including short assay and multiple choice questions) + oral exam + practical exam
- Analytical toxicology and Drugs of abuse: one-hour written exam for each (including short assay and multiple choice questions) + oral exam + practical exam
- Medico Legal responsibilities |& Malpractice: one-hour written exam for each (including short assay and multiple choice questions) + oral exam + practical exam
- Elective course : one-hour written exam (including short assay and multiple choice questions) + oral exam

Assessment schedule

The written exam will be held in five days:

Day one: Clinical toxicology (2 hours)

Day two: Forensic medicine, forensic odontology and Forensic anthropology (3 hours)

Day three: Analytical toxicology and Drugs of abuse (2 hours)

Day four: Medico Legal responsibilities |& Malpractice (2 hours)

Day five: elective courses (1 hour)

This will be followed by the practical and oral exams in separate days

Marks allocated to courses (Each credit point = 50 marks)

Course	Written	Oral	Clinical/practical	Total
Clinical toxicology	100	70	80	250
Forensic medicine, forensic odontology and Forensic anthropology	200	75	75	350
Analytical toxicology and Drugs of abuse	50	20	30	100
Medico Legal responsibilities & Malpractice	100	50	50	200

Elective courses	100	50	50	200
				1100

*Passing marks in the written exam is $\geq 60\%$

Weighing of assessment:

Final-term written examination 60 %

Oral examination 20 %

Practical/clinical exam 20 %

Total 100%

IX. Evaluation of program intended learning outcomes:

Evaluator	Tool	Sample
1.Senior Students	Questionnaire at the end of the program	All the PG students
2. External Evaluators	Review the program and courses Attending the final exam.	Once before implementation Bi-annual report
3. Quality Assurance unit	Annual program review	

Signatures:

Date of approval by department council : September 2016

Head of Department
Prof. Usama EL-Barrany

Program Coordinator
Dr/ Amany Fahmy Hanon
Dr/ Samah Fatthy Ibrahim