



PROGRAMME SPECIFICATION

Postgraduate Master Degree of Forensic Medicine and Clinical Toxicology

Faculty of Medicine- Mansoura University

(A) Administrative information

| | |
|--|---|
| (1) Programme Title & Code | Postgraduate Master degree of Forensic Medicine and Clinical Toxicology/ FNST 500. |
| (2) Final award/degree | MSc. |
| (3) Department (s) | Forensic Medicine & Clinical Toxicology Department |
| (4) Coordinator | Prof. Dr. Sahar Abdelaziz El Dakroory Prof. Dr. Amal Abd El- Salam Al Bakary |
| (5) External evaluator (s) | Prof.Dr. Madeha Wasef Mohamed Ali Professor of Forensic Medicine and Clinical Toxicology-Zagazeg University. |
| (6) Date of approval by the Department`s council | 25/7/2016 |
| (7) Date of last approval of programme specification by Faculty council. | 9/8/2016 |

(B) Professional information

(1) Programme Aims:

The broad aims of the programme are as follows:

1. To prepare our candidates to acquire basic knowledge, competencies and applications of basic sciences essential for forensic scientists and clinical toxicologist.
2. To give our candidate knowledge, competencies and applications to perform medicolegal autopsy, collect specimen, integrate the forensic data properly, and report the data in proper medicolegal forms in service of justice.
3. To give our candidate knowledge, competencies and applications to evaluate different injuries and the resultant infirmity from it, integrate the forensic data properly and report the data in proper medicolegal forms in service of justice.
4. To give our candidate knowledge, competencies and applications for ideal management of acute and chronic toxicity patients.
5. To provide our candidate with knowledge, competencies, and applications to work in multidisciplinary health care team for ideal management of cases.
6. To provide our candidate with knowledge, competencies, and applications to collect proper specimen for toxicological analysis, perform different techniques in the laboratory and interpret the result
7. To provide our candidate with knowledge and intellectual skills for applications of forensic radiology, forensic odontology and addiction.
8. To provide the candidate with knowledge, competencies, and applications for writing a scientific methodology study on research problem, follow ethical guidelines in research and using proper statistical methods
9. Preparing candidates to be good practitioners, educators, researchers, and administrators capable of practicing forensic medicine and medical toxicology in academic and clinical settings.
10. To provide the candidate with knowledge skill, and attitude related to medical ethics medical malpractice

(2) Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

A- Knowledge and Understanding:

On successful completion of the programme, the candidate will be able to:

A1: Recognize pharmacokinetics, pharmacodynamics, interactions of therapeutic and non therapeutic drugs, drug abuse and dependence.

A2: Recognize principles of toxicokinetics, mechanisms of acute and chronic toxicity, and principles for general management of poisoned patient.

A3: Identify different methods of sample collection with following chain of custody; preservation; describe the toxicological different analytical methods and recognize their principles and techniques

A4: Describe the different legal aspects of obtaining and marketing of any addictive substance.

A5: Describe principles of pathological inflammation, repair, necrosis, degeneration, carcinogenesis and characters of different pathological lesions essential for forensic practice.

A6: Identify normal and abnormal ECG findings, recognize different types of arrhythmia (causes, clinical picture and management) and describe the medical background of different organ failure in poisoned patients.

A7: Recognize the medico-legal aspects of wounds, regional injuries, different types of injuries and permanent infirmities.

A8: Recognize principles for dealing with cadavers and living cases for medicolegal examination, how to identify, the basic medico-legal aspects of different post mortem changes, asphyxia, pregnancy, abortion, delivery, violence against females and children and follow ethical guidelines in dealing with the cases

A9. Describe applications of forensic radiology, forensic odontology and clinical addiction.

A10: Recognize the medical ethics and discuss different types and causes of medical malpractice.

A11. Discuss writing a scientific methodology study on research problem, follow ethical guidelines in research and using proper statistical methods

A12: Explain basics and recent guidelines in management of both acute and chronic toxicity of common classes of drugs, environmental and occupational toxins and discuss ethical and physician-patient safety guidelines in their management

B- Intellectual skills:

- B1:** Determine basic ethical dilemmas and suggest the proper solutions of different problems of malpractice.
- B2:** Analyze and correlate different findings from medicolegal examination to identify the cause and manner of death as well as the type and cause of injuries.
- B3:** Analyze data taken from history taking, clinical examination, laboratory and radiological investigations to reach proper diagnosis of toxicological cases and distinguish the differential diagnosis of cases.
- B4:** Assess the risks in dealing with cases of occupational exposure and special groups of patients e.g. pregnant female, pediatrics, geriatrics, addicts and psychiatric disorders and follow physician-patient safety guidelines.
- B5:** Determine admission and discharge criteria.
- B6:** Create a hypothesis based on a research gap in the field of study, organize a research design and choose proper research methodology.
- B7:** Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

C- Professional/practical skills:

- C1:** Perform medico-legal examination, interpret the different medico-legal findings and construct proper medico-legal reports.
- C2:** Demonstrate naked eye and microscopic examination of the different pathological lesions essential for forensic practice
- C3:** Perform commonly used toxicological analytical techniques.
- C4:** Take history, perform clinical examination and implement proper management of different toxicological cases.
- C5:** Select proper different toxicological and non toxicological investigation and interpret its result
- C6:** Construct proper transfer report including all patients' data, treatment received, recommendation and cause of transfer
- C7:** Construct medical request including specialty required, patient condition, cause and aim of the request.

D- Communication & Transferable skills

D1: Demonstrate compassion, integrity, and respect for all human rights and treat all subjects equally regardless to their beliefs, culture and behavior.

D2: Communicate effectively with patients, families, and the public.

D3: Recognize one's own limitation of knowledge and skills and refer patients to appropriate specialized health facility at appropriate stage.

D4: Communicate effectively with physicians, other health professionals, and health related agencies.

D5: Maintain comprehensive, timely, and legible medical records, if applicable.

D6: Manage patient at proper time.

D7: Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care.

D8: Use recent information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

D9: Adopt principles of the lifelong learning needs.

D10: Perform self assessment for proper management of cases and evaluate the performance of others

(3) Academic standards:

Academic standards for the programme are attached in [Appendix I](#). in which **NARS** issued by the National Authority for Quality Assurance & Accreditation in Education are used being approved by the Faculty council on 14/7/2010.

(4) Curriculum structure and contents:

4.a- Duration of the programme: 4 semesters

4.b- programme structure:

1- **The programme consists of two parts**; the first part (semester 1) composed of five courses which are; General Toxicology & regulating laws of drugs & Toxins, Forensic Chemistry Forensic Pathology, Internal Medicine, Pharmacology. The second part (semesters II, III, IV) composed of three mandatory courses (Forensic Medicine and Medicolegal responsibility, Injuries and Permanent Infirmities and Clinical Toxicology) and one of two elective courses.

2- Candidates should fulfill a total of **23 credit hours**.

3- Logbook includes number of required performed skills and attendance [Appendix II](#).

4.c.: Number of credit hours (minimum):

First part: 5 credit hours. Activities included in the log book.

Second part: 18 credit hours (lectures), 10 credit hours; activities included in the log book (practical and applied skills)

Thesis: 10 credit hours.

Programme courses:

First part

a- Compulsory courses:

| Course title | المقررات | Course code | Theoretical Lectures | Practical | Total / week | Total teaching hours | |
|---|---|-------------|----------------------|-----------|--------------|----------------------|-----------|
| | | | | | | Lecture | Practical |
| General toxicology, Regulating laws of drugs & toxins | السموم العامة والمبادئ المنظمة للجواهر المخدرة و السموم | FNST 519 GT | 1 | --- | 1 | 15 | --- |
| Forensic chemistry | الكيمياء الطبية الشرعية | FNST 519 FC | 1 | 0.5 | 1.5 | 15 | 15 |
| Forensic pathology | الباثولوجيا الطبية الشرعية | FNST 505 FP | 1 | 0.5 | 1.5 | 15 | 15 |
| Clinical pharmacology | الفارماكولوجيا اللاكلينيكية | FNST 506 | 1 | --- | 1 | 15 | --- |
| Medicine | أمراض الباطنة | FNST 510 | 0.5 | 0.5 | 1 | 7.5 | 15 |
| Total | | | | | 6 | 67.5 | 45 |

*Clinical training of average three weekly 12-hours shift is conducted as a part of a residency program of clinical toxicology in Emergency Hospital which runs parallel to the courses of the first and second parts.

b- Elective courses: none

Second part (60 weeks duration/15 months)

| Course title | المقررات | Course code | Semester II | | | | Semester III | | | | Semester IV | | | |
|--|--|------------------------------------|-------------|----------------------|--------------------------|----------------------|--------------|----------------------|--------------------------|----------------------|-------------|----------------------|--------------------------|----------------------|
| | | | Lectures | Practical & clinical | Total credit hours/ week | Total teaching hours | Lectures | Practical & clinical | Total credit hours/ week | Total teaching hours | Lectures | Practical & clinical | Total credit hours/ week | Total teaching hours |
| Forensic Medicine & Medicolegal Responsibilities | الطب الشرعي و المسؤولية الطبية الشرعية | FNST 519 FM | 1.5 | 1 | 2.5 | 52.5 | 1.5 | 1.5 | 3 | 67.5 | 1 | 0.5 | 1.5 | 30 |
| Injuries and Permanent Infirmities | للإصابات و العاهات المستديمة | FNST 519 MII | 1.5 | 1 | 2.5 | 52.5 | 1.5 | 1 | 3.5 | 52.5 | 1 | 0.5 | 1.5 | 30 |
| Clinical Toxicology | السموم الاكلينيكية | FNST 519 ET | 3 | 2 | 5 | 105 | 3 | 1.5 | 4.5 | 90 | 3 | 0.5 | 3.5 | 60 |
| Elective course: • Forensic Radiology • Forensic odontology على أن يختار الطالب مقرر اختياري واحد | المقررات الاختيارية • الأشعة من الوجهة الطبية الشرعية • علم الاسنان من الوجهة الطبية الشرعية | • FNST 519 FR • FNST 519 FO | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | 1 | 15 |
| Total | | | 6 | 4 | | 210 | 6 | 4 | | 210 | 6 | 2 | | 135 |

Programme-Courses ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2.....etc), then the course titles or codes are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

P.S. All courses` specifications are attached in Appendix III.

| | |
|--------|----------------|
| Course | Programme ILOs |
|--------|----------------|

| Title/Code | a.1 | a.2 | a.3 | a.4 | a.5 | a.6 | a.7 | a.8 | a.9 | a.10 | a.11 | a.12 | B.1 | B.2 | B.3 | B.4 | B.5 | B.6 | B.7 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|
| General Toxicology & regulating laws of drugs & Toxins | | • | | • | | | | | | | | | | | | • | | | |
| Forensic Chemistry | | | • | | | | | | | | | | | | | | | | |
| Forensic Pathology | | | | | • | | | | | | | | | | | | | | |
| Internal Medicine | | | | | | • | | | | | | | | | | | | | |
| Pharmacology | • | | | | | | | | | | | | | | | | | | |
| Forensic medicine and medicolegal responsibilities | | | | | | | | • | | • | | | • | • | | | | | |
| Injuries and Permanent Infirmities | | | | | | | • | | | | | | | • | | | | | |
| Clinical Toxicology | | | | | | | | | | | | • | | | • | • | • | | |
| forensic radiology | | | | | | | | | • | | | | | | | | | | |
| forensic odontology | | | | | | | | | • | | | | | | | | | | |
| clinical addiction | | | | | | | | | • | | | | | | | | | | |
| Thesis | | | | | | | | | • | | | | | | | | | • | • |

| Course Title/Code | Programme ILOs | | | | | | | | | | | | | | | | |
|--|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| | c1 | c2 | c3 | c4 | c5 | c6 | C7 | d1 | d2 | d3 | d4 | d5 | d6 | d7 | D8 | D9 | D10 |
| General Toxicology & regulating laws of drugs & Toxins | | | | | | | | | | | | | | | | | |
| Forensic Chemistry | | | • | | • | | | | | | | | | | | | |
| Forensic Pathology | | • | | | | | | | | | | | | | | | |
| Internal Medicine | | | | | | | | | | | | | | | | | |
| Pharmacology | | | | | | | | | | | | | | | | | |
| Forensic medicine and medicolegal | • | | | | | | | • | • | | | • | | | • | • | • |

| | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| responsibilities | | | | | | | | | | | | | | | | | | |
| Injuries and Permanent Infirmities | • | | | | | | | • | • | | | • | | | • | | • | • |
| Clinical Toxicology | | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| forensic radiology | | | | | | | | | | | | | | | | | | |
| forensic odontology | | | | | | | | | | | | | | | | | | |
| clinical addiction | | | | | | | | | | | | | | | | | | |
| Thesis | | | | | | | | | | | | | | | • | | • | |

Programme-Aims ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2.....etc), then the program aims are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

P.S. All courses` specifications are attached in [Appendix III](#).

| Program aims | Programme ILOs | | | | | | | | | | | | | | | | | | |
|--------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|
| | a.1 | a.2 | a.3 | a.4 | a.5 | a.6 | a.7 | a.8 | a.9 | a.10 | a.11 | a.12 | B.1 | B.2 | B.3 | B.4 | B.5 | B.6 | B.7 |
| 1 | . | . | . | . | . | . | | | | | | | | | | | | | |
| 2 | | | | | | | | . | | | | | | . | | | | | |
| 3 | | | | | | | . | | | | | | | . | | | | | . |
| 4 | | | | | | | | | | | | . | | | . | . | . | | . |
| 5 | | | | | | | | | | | | . | | | | | | | |
| 6 | | | . | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | . | | | | | | | | | | |
| 8 | | | | | | | | | | | . | | | | | | | . | . |
| 9 | | | | | | | . | . | | | | . | | | | | | | |
| 10 | | | | | | | | | | . | | | . | | | | | | |

| Course Title/Code | Programme ILOs | | | | | | | | | | | | | | | | |
|-------------------|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| | c1 | c2 | c3 | c4 | c5 | c6 | C7 | d1 | d2 | d3 | d4 | d5 | d6 | d7 | D8 | D9 | D10 |
| 1 | | . | . | | . | | | | | | | | | | | | |
| 2 | . | | | | | | | . | . | | | . | | | . | | . |
| 3 | . | | | | | | | . | . | | | . | | | . | | . |
| 4 | | | | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 5 | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|---|--|--|--|---|--|---|--|---|---|
| 6 | | | | | | | | | | | | . | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | . | | . | |
| 9 | | | | | | | | . | | | | . | | | | | . |

(4) Programme admission requirements:

•General requirements:

According to the faculty postgraduate by laws [Appendix IV](#).

•Specific requirements:

1- Fulfillment of at least 75% of the logbook activities that includes:

- Attendance of lectures, laboratory work and field training according to the master programme specification.
- Residency training program in the Poisoning Unit-Emergency Hospital of about three shifts per week including recording the patients cases manually and electronically.
- Attendance of the weekly seminar held in the department.
- Attendance of student teaching sections.
- Perform minimally 5 seminars.

6- Construct five medico-legal reports and five clinical toxicology reports.

7- Sharing in museum renewal by three specimens before final exam.

8- Attendance of at least one conference and one workshop yearly.

(5) Regulations for progression and programme completion:

• Student must complete minimum of 45 credit hours in order to obtain the MSc. degree, which include the courses of first and second parts, thesis and activities of the log book.

• Courses descriptions are included in [Appendix III](#).

• Registration for the MSc. Thesis is allowed 6 months from the day of admission to the programme and must fulfill a total of 15 credit hours including material collection, laboratory work, patients' follow-up, and meetings with supervisors.

Final exam:

الفصل الدراسي الأول

| إجمالي | الدرجة | | | | الاختبار | المقرر |
|--------|-----------|------|------|--------|---|--|
| | اكتينبيكي | عملي | شفهي | تحريري | | |
| 300 | | | ١٢٠ | ١٨٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي | السموم العامة والمبادئ القانونية المنظمة للجواهر المخدرة والسموم |
| 300 | | ٦٠ | ٦٠ | ١٨٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي + إختبار عملي | الكيمياء الطبية الشرعية |

| | | | | | | |
|------|---------------|----|-----|-----|--|----------------------------|
| 300 | | ٦٠ | ٦٠ | ١٨٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي + إختبار عملي | الباثولوجيا الطبية الشرعية |
| 300 | ٦٠ | | ٦٠ | ١٨٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي + إختبار إكلينيكي | الباطنة العامة |
| 300 | | | ١٢٠ | ١٨٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي | الفارماكولوجيا |
| ١٥٠٠ | إجمالي الدرجة | | | | | |

يتم حساب درجات الساعات المعتمدة بما يوازي ٢٠% من درجة الماجستير بعقد امتحان في نهاية كل مقرر على هيئة

MCQ بأشكاله المختلفة

الامتحان النهائي الشامل

| إجمالي | الدرجة | | | | الاختبار | المقرر |
|--------|---------------|----------|------|--------|--|---|
| | عملي | إكلينيكي | شفهي | تحريري | | |
| 300 | ٧٥ | | ٧٥ | ١٥٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي ممنهج + إختبار عملي | الطب الشرعي و المسؤولية الطبية الشرعية |
| 300 | ٧٥ | | ٧٥ | ١٥٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي ممنهج + إختبار عملي | الإصابات و العاهات المستديمة |
| 600 | | ١٥٠ | ١٥٠ | ٣٠٠ | إختبار تحريري مدته ثلاث ساعات + إختبار شفهي ممنهج + إختبار إكلينيكي | السموم الإكلينيكية |
| 100 | | | ٢٥ | ٧٥ | إختبار تحريري مدته ساعة واحدة + إختبار شفهي ممنهج | المقرر الاختياري |
| ١٣٠٠ | إجمالي الدرجة | | | | | |

يتم حساب درجات الساعات المعتمدة بما يوازي ٢٠% من درجة الماجستير بعقد امتحان في نهاية كل مقرر على

هيئة MCQ بأشكاله المختلفة

(6) Evaluation of Programme's intended learning outcomes (ILOs):

| Evaluator | Tools* | Signature |
|--|---|-----------|
| Internal evaluator (s) Prof.Dr.Mona El-Harouny Prof.Dr Layla El-Zalabany Prof.Dr.Seham Gad El Hak | Focus group discussion Meetings | |
| External Evaluator (s) Prof.Dr.Madeha Wasef | Reviewing according to external evaluator checklist report. | |
| Senior student (s) | None | |
| Alumni | None | |

| | | |
|-----------------|------|--|
| Stakeholder (s) | None | |
| Others | None | |

* TOOLS= QUESTIONNAIRE, INTERVIEW, WORKSHOP, COMMUNICATION, E_MAIL

We certify that all information required to deliver this programme is contained in the above specification and will be implemented. All course specification for this programme are in place.

| | |
|---|-------------------|
| Programme coordinator (Committee): Name: Prof.Dr. Sahar Abdelaziz El Dakroory Ass. Prof. Dr. Amal Abdelsala | Signature & date: |
| Head of Department: Name: Prof.Dr. Sahar Abdelaziz El Dakroory | Signature & date: |
| Dean: Name: | Signature & date: |
| Executive director of the quality assurance unit: Name: Prof.Dr. Seham Gad El-Hak | Signature & date: |