



Program Specification for Doctorate Degree in Clinical Toxicology in Occupational and Environmental Medicine

Program type: Single

Program code: OEM 921

Department offering the program: Occupational and Environmental Medicine Department

Total credit points: 100

Academic year: 2016/2017

Program Coordinator: Prof. Inas Mohamed Fawzy Gaballah

Assistant Coordinator Assist. Prof. Dr. Aisha Mohamed Samir
 Lecturer. Dr. Rateba Said

External Evaluator: Professor Dr. Ahmed Alsaid Asmat Shouman,
 Professor of Occupational Health Department
 Faculty of Medicine, Ain Shams University, Egypt.

I. Aim of Program

The program aims at ensuring the acquisition of knowledge, skills and positive attitudes related to clinical toxicology and its applications in the field of occupational and environmental medicine with the development of an appropriate background covering the emergency situations of intoxications and the innovative therapeutic interventions. It also ensures the gaining of professional skills needed for research development in clinical and applied toxicology so as to help in the implementation of suitable control and risk management programs in the community.

II. Intended learning outcomes of program (ILOs)

A. **Knowledge and Understanding:** By the end of the program, the candidate should be able to:

- 1) Define and list toxins from a variety of sources (occupational, industrial and environmental)
- 2) Describe the pharmacokinetics of substances within the body.
- 3) Recognize the various aspects essential for proper evaluation and full assessment of the clinical condition of intoxicated patients.
- 4) List the major essential preventive measures required to minimize the incidence of intoxications.

- 5) Define the ethical precepts and values of the medical profession, and their obligations under law and the common medical errors and malpractice.

B. Intellectual Skills: By the end of the program, the candidate should be able to:

- 1) Integrate the different physiological mechanisms with the various toxicological exposures.
- 2) Integrate basic anatomical, biochemical and physiological facts with clinical data.
- 3) Interpret different X-rays and CT films, electrocardiogram, pulmonary function tests, exercise physiological data, pathological and laboratory data covering the different toxicological conditions.
- 4) Construct differential diagnosis for various toxicological situations and decide the priorities of diagnosis as a step towards the selection of suitable management plan.
- 5) Construct appropriate management strategies (both diagnostic and therapeutic) for patients with common diseases, both acute and chronic.
- 6) Recognize and cope with unavoidable uncertainty in the practice of medicine.
- 7) Assess and manage patients with acute sub-acute/chronic exposures to toxic substances from a variety of sources.
- 8) Measure the toxicological hazards in various occupations.
- 9) Integrate reason deductively in solving clinical toxicological problems with critical thinking so as to reach the proper diagnosis
- 10) Construct appropriate plans of risk management and risk control for adequate health promotion.
- 11) Select and apply relevant principles of pharmacology and toxicology to the management of poisoned patients.
- 12) Design the of management for stabilization of patients with serious intoxications and recognize the principles of disability evaluation and vocational rehabilitation.
- 13) Build a suitable monitoring program either environmental or biological.
- 14) Design process of prevention and controlling exposure to various toxicant to ensure that safe levels are achieved.
- 15) Demonstrate scientific research plans through the collection, analysis and interpretation of toxicological and environmental data.

C. Professional Skills: By the end of the program, candidate should be able to:

- 1) Manage clinical problems employing basic scientific principles, and evidenced-based medicine to perform first aid procedures for different emergency cases.
- 2) Perform routine technical procedures related to patent airway patency, venous, arterial and lumbar punctures, intravenous catheterization, thoraco-centesis, as well as insertion of nasogastric tube and Foley's catheter.
- 3) Integrate applied toxicological principles and community health practices.
- 4) Develop educational skills to promote lifelong learning in medical education.

- 5) Conduct advanced innovative research in the area of clinical toxicology.

D. General and Transferable Skills: By the end of the program, the candidate should be able to:

- 1) Interact effectively in all different ways with patients and victims for the increase in awareness and for the provision of health education.
- 2) Use the information technology to remain updated with the advances in knowledge so as to serve the professional practices.
- 3) Carry out self-assessment to identify the personal learning and training needs for adoption of self and continuous learning approaches.
- 4) Manage resources effectively to obtain the required knowledge, information and skills.
- 5) Manage time with efficiency whether in management of cases or in training colleagues.
- 6) Develop rules and indicators to monitor and evaluate performance of addicts at work.
- 7) Work in a team and group leading in the clinical management of intoxications.

III. Academic Standards

1. Academic reference standers: The academic standers of anatomy program is adopted and accredited by the departmental council
2. External References for Standards:
 - Clinical Toxicology, University La Salle Mexican Faculty of Medicine, Dundee University Medical School, Dundee, England.

IV. Program Admission Requirements

Potential students should hold an honor Master degree in Occupational and Environmental Medicine or Clinical Toxicology from an approved institution. Students are advised to have overview of advanced medical statistics (II) with some research experience. They are also advised to have ready access to a personal computer with the following minimum specifications: Windows 2000/XP/Vista/W7; Soundcard/speakers and headphones and 24 x CD ROM drive; A 56 kbs or greater internet connection with Explorer or Netscape; A Quick-Time Player or Windows Media Player to run interactive exercises.

V. Program Structure and Contents

Program duration: Three academic years.

Program structure: Total Credit points 100

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|-------------------------|------------------|
| • Compulsory courses | 20 credit points |
| ▪ Basic Toxicology | 3 credit points |
| ▪ Clinical Toxicology | 17 credit points |
| • Elective courses | 5 credit points |
| • Scientific activities | 3 credit points |

- Clinical/Practical training program
- Doctorate Thesis

32 credit points
40 credit points.

Courses		Credit Points		ILOs
		CPs	Total	
Code	Title			
COMPULSORY COURSES				
<i>OEM 921 BTox</i>	Basic Toxicology	3	20	
<i>OEM 921 CTox</i>	Clinical Toxicology	17		
ELECTIVE COURSES (MEDC) choose 2 courses				
<i>OEM 921 WM</i>	New trends in withdrawal symptoms management	5	5	
<i>OEM 921 AD</i>	Antidotes	5		
<i>OEM 921 STox</i>	Sport Toxicology	5		
SCIENTIFIC ACTIVITIES				
<i>Sc.Act.</i>	Scientific activities	3	3	
TRAINING PROGRAM				
<i>OEM 921 C/P</i>	Clinical/Practical training program	32	32	
DOCTORATE THESIS				
	Doctorate Thesis	40	40	

PRACTICAL TRAINING PROGRAM

All candidates should complete the specialized clinical training related to the area of Clinical Toxicology in the Toxicology Center (NECTR) and in the Occupational and Environmental Medicine Department for duration of two academic years to acquire the needed credit points. During this period the candidates should attend clinical rounds and share in the scientific activities to acquire skills in the diagnosis and proper management of acutely and chronically intoxicated adults and pediatric patients. Additionally, the candidates will acquire the knowledge and skills related to the proper interpretation of toxicological analytical procedures and medical interventions essential for the correct evaluation of intoxications.

NB: The details of the training program are provided in separate document.

DOCTORATE THESIS

All doctorate degree candidates should prepare a thesis in the area of Clinical Toxicology after obtaining the approval of the department and the ethical committees on the protocol of the research. The doctorate degree thesis is a specialized research in the field of Clinical Toxicology that includes a review part and a research part. The thesis is supervised by one or more of the senior staff members from the Occupational and Environmental Medicine Department and may include staff members from other specialties according to the necessities of research. The research is then evaluated and approved by a committee of three professors comprising one of the supervising staff members together with an internal evaluator from the same department and an external evaluator from a scientific institution other than the faculty of medicine, Cairo University.

SCIENTIFIC ACTIVITIES

The students should participate in the scientific activities of the departments such as:

- *Journal club.*
- *Seminars (including recent topics and controversial issues). Students are expected to participate in the discussions.*
- *Scientific meetings arranged by the department.*

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

VI. Regulations for Progression and Completion

After collecting the required credit points for courses, clinical training, and scientific activities, the candidate will be eligible to sit for the final examination. In case the student fails to pass the examination, he may proceed in the Doctorate thesis and can resubmit for the next examination. After passing the final examination, he/she should finish the thesis so as to receive the degree. Doctorate degree must be obtained within a maximum of 10 years following registration date.

VII. Assessment

A: Assessment Tools

- **Supervision and Monitoring of Training Program**

According to the Faculty of Medicine, Cairo University Bylaws for Practical Training Programs, the staff members carry out continuous assessment during the program. A practical training program logbook will be kept for each candidate to document all the practical activities in addition to the participation in different scientific activities. The head of department provides permission for the candidates to attend the final examination upon completion of the training program and gathering of credit points needed.

- **Formal Assessment**

According to the Faculty of Medicine, Cairo University Bylaws for Post Graduate Programs (July 2009), students should be assessed at the end of the Doctorate degree.

- **Basic Toxicology:** A three-hour written exam includes long and short essay questions and multiple choice and problem solving questions as well as an oral exam.
- **Clinical Medical Toxicology:** A three-hour written exam includes long and short essay questions and multiple choice questions together with a clinical exam and an oral exam.
- **Occupational and Environmental Toxicology:** A three-hour written exam includes long and short essay questions and multiple choice questions together with a clinical exam and an oral exam.
- **Elective Course:** A three-hour separate written exam includes long and short essay questions and problem solving questions as well as an oral exam.

B: Assessment Schedule:

Doctorate Final Exam:

The written exam will be held in April/October (four days):

Day one: Basic Toxicology (3 hours)

Day two: Medical Toxicology (3 hours)

Day three: Occupational and Environmental Toxicology (3 hours)

Day four: Elective course (3 hours)

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

C: Weighing Of Assessment (Marks allocated to courses):

(50 marks for each credit point)

Courses		Marks			
Code	Title	Written	Oral	Clinical	Total
DOCTORATE DEGREE					
<i>OEM 921 BTox</i>	Basic Toxicology	175		---	1000
<i>OEM 921 CTox</i>	Clinical Medical Toxicology	175	150	125	
	Clinical Occupational/Environmental Toxicology	175		200	
<i>OEM.821.OHC</i>	Occupational Hazards Control	175	75	---	250
<i>OEM.821.FR</i>	Fitness and Rehabilitation				
<i>OEM.821.AEK</i>	Ergonomics and Kinesiology				
Total First Part					1250

Remarks

- It is mandatory to pass all the papers of written exams separately.
- The passing mark in any written exam is $\geq 60\%$.

VIII. Evaluation of Program Intended Learning Outcomes

Evaluator	Tool	Sample
1. Senior Students	Questionnaire at the end of the program	All the PG students
2. Alumni	The faculty is currently developing an Alumni office for postgraduates	Not yet determined
3. Stakeholders	A meeting will be arranged during annual conference of the department	Available representatives from: National medical insurance Medical syndicate Ministry of health
4. External Evaluators	Review program and courses Attending the final exam	Once before implementation Bi-annual report
5. Quality Assurance Unit	Annual program reviewer	

Date of approval by department:

Program Coordinator

*Assist. Prof. Dr. Aisha Mohamed Samir
Lecturer. Dr. Rateba Said*

Head of Department

Prof. Dr. Khaled Mahgoub

