COURSE SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Neurotoxicology Fellowship(NT)
(2) Part of the programme:	Semester 3
(3) Date of approval of programme specification by Faculty council	**9/8/2016**
(4) Course title:	**Natural Toxins**
(5) Course code:	NT3
(6) Total teaching hours:	5 credit hours

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- Provide in-depth knowledge of natural toxins
- Develop updated concepts in clinical aspects of natural toxins exposure
- Identify how to use natural toxins to develop experimental models for study.

(2) Intended Learning Outcomes (ILOs):

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

A- Knowledge and Understanding

A1. To know the workings of anticholinesterase insecticides and pesticides. Consequences of metals such as mercury, lead, zinc, and polytypic byproducts of combustion on nerves functions. Understand natural toxins - those of microbial origin (microbial, marine, clostridial, and botulilinal neurotoxins), as well as those of animal origin (snake, spider, and scorpion venoms).

B- Intellectual skills

B1 To Identify sites and mechanisms of neurotoxicity, how chemicals affect the nervous system, effects of human-made neurotoxins, as well as those of natural origin.

C- Professional/practical skills

c1- Design Animal Models for Neurotoxicity

D- Communication & Transferable skills

D1. Use Evidence Based Medicine in management decisions.

D2. Work effectively within the health care team.

D3. Solve problems related to patients, work management, and among colleagues.

D4. Cope with a changing work environment.

D5. Apply safety and infection control measures during practice.

(3) Course content: Compulsory

Lectures: (24weeks).

Course title	Code	Hours/ Lectures	Credit Hours
Natural Toxins a. Microbial Neurotoxins b. Biosynthesis of Important Marine Toxins of Microorganism Origins c. "Shellfish" Toxins d. Overview of Clostridial Neurotoxins e. Molecular Mechanism of Action of Botulinal Neurotoxins and the Synaptic Remodeling **F.** Marine Mammals as Sentinels of Environmental Biotoxins G Natural Toxins of animal origin	NT3	2 2 2 2 2 2 2	5

(4) Teaching methods:

4.1: Online lectures with discussions, quizes

4.2: Online problem -solving case scenarios

4.3 Clinical rounds in toxicology unit

4.4 Practical Training in Experimental neurology Unit (MERC)

(5) Assessment methods:

-Online MCQs and EMQs exam after end of 1st semester

-Assessment of clinical traineeship: logbook

- writing a review article about one theme of the course

(6) References of the course:

Textbooks

- Mammalian Toxicology MB Abou Donia, Wiley2nd Edition
- Neurotoxicology: MB Abou Donia, CRC
- Neuroscience; Dale Purves, et al., Sinauer Press, 5th Ed, 2012

Periodicals

- Neurotoxicology and Teratology
- Neurotoxicology
- Neurotoxicity Research
- Experimental Neurology

(7) Facilities and resources mandatory for course completion:

Intranet with a vast learning material

Program specification and handbooks

Candidates logbook

A very rich library and computer laboratories

Course director:

Dr. : Mohamed Salama

Course co-ordinators:

Dr. Shaaban El Mosallamy

Dr. Mohamed El Gamal

Date: