COURSE SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Neurotoxicology Fellowship(NT)
(2) Part of the programme:	Semester 1
(3) Date of approval of programme specification by Faculty council	**9/8/2016**
(4) Course title:	**Neurobiology/physiology**
(5) Course code:	NT1
(6) Total teaching hours:	7 credit hours

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- Provide in-depth knowledge of basics of neuroscience
- Develop updated concepts in neuronal circuity and crosstalks.
- Identify how to study neuroscience models both invivo or invitro.

(2) Intended Learning Outcomes (ILOs):

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

A- Knowledge and Understanding

A2. To Understand the characteristics of the nerves that make them a target of neurotoxicants.
A3. To Understand the anatomy, physiology and biochemistry of the nerves, the electrophysiological properties of the nerves and generation of nervous transmission, Action potentials, and ion channels.

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

D5. Apply safety and infection control measures during practice.

(3) Course content: Compulsory

Lectures: (24 weeks).

Course title	Code	Hours/ Lectures	Credit Hours
Neurobiology/physiology -a. Introduction and Course Overview b. The Cells of the Nervous System c. The Macroscopic Organization of the Brain and CNS d. Resting Membrane Potential e. Action Potential: Generation and Propagation f. Ion Channels: Voltage-gated Channels and Ion Pumps g. Synaptic Transmission: Axonal Transport, Transmitter Release and Postsynaptic potentials h. Neurotransmitters I / Neurotransmitters II i. Postsynaptic Action: Second Messengers	NT1	3 3 6 3 3 6 3 12 4	7

(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 of the themes 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: