



**Quality Assurance Unit**



**Tanta University**  
**Faculty of Medicine**

**Department of medical Pharmacology**

**Course specifications**

**Medical Pharmacology Doctorate Degree (1<sup>st</sup>  
semester)**

**(2021 Bylaw)**

**2021/2022**

**Medical Pharmacology Doctorate degree course specifications**

University: Tanta

Faculty: Medicine Department medical Pharmacology

**A- Administrative specifications**

- 1- Course title: Medical doctorate in medical Pharmacology
- 2- Department offering the program: Medical Pharmacology Department.
- 3- Department responsible for the course: Medical Pharmacology Department.
- 4- Course code: PHAR9001
- 5- Level: first part.
- 6- No. of Credit.

No. of credit hours of the course: 10 credits as follows:

Obligatory courses: 8 credits hours (including: 7 credit hours lectures and 1 credit hours practical).

7-Course Progress Supervisor: Prof. Dr. Amany Abd El-Rahim Abdin Prof. of Pharmacology, Tanta Faculty of Medicine

8-Internal Evaluator of the course: Prof. Dr. Sabiha El Mandoh Hedy Prof. of Pharmacology, Tanta Faculty of Medicine

9-External Evaluator of the course: Prof.Dr. Mohammed Ahdy faculty of medicine, Mansura university

10- Course Coordinator: Dr. Amira Ahmed El-Saadany, Assistant Professor of Pharmacology, Tanta Faculty of Medicine

11- Authorization date of course specification: 6-12-2021

**B- Professional Information**

**1 – Overall Course aims**

**Our course aims to:**

Train students for research & education careers in the field of Pharmacology.

**By the end of the course the candidate will be able to:**

- ❖ Perfect the bases and methods of medical researches.
- ❖ Enrich pharmacology field through original medical researches.
- ❖ Apply analytical and critical methods when dealing with medical problem.

- ❖ Deeply oriented with the current medical problems, and up to date hypothesis in pharmacology.
- ❖ Detect professional problems and suggest innovative solutions.
- ❖ Perfect large scale of professional skills in his specialty.
- ❖ Adopt positive attitude towards the development of new modalities and methods of professional practice in pharmacology.
- ❖ Perfect use of technological tools needed in his practice.
- ❖ Communicate and lead team in systematic professional manner.
- ❖ Decision making through analysis of available information.
- ❖ Effectively manage available resources, planning to increase it, and develop new resources.
- ❖ Oriented with his role in community development , and environmental safety.
- ❖ React in professional manner reflecting his commitment towards impartiality, credibility ,medical ethics, and responsibilities.
- ❖ Commit to continuous self development and transfer of his medical experience to others.
- ❖ Understand the fundamental information and general principles underlying the use of different pharmacological agents (drugs) including
  - Learning drug adverse drug effects including toxicity and drug interactions.
  - Research that seeks to develop new and better drugs to treat diseases.

## **2 – Intended learning outcomes (ILOs):**

### **a-knowledge and understanding:**

*By the end of the course, students should be able to:*

**a1. Describe the theories, principles and updates in the field of pharmacology, in addition related biochemical , physiological, and pathological bases , so he/ she will be able to:**

**a2. Explain the pharmacokinetic, cellular and molecular mechanisms of drug actions of different groups of drugs affecting body systems.**

**a3. Identify the adverse and toxic effects of commonly used drug groups, and their management.**

a4. Define clinically relevant age, sex and genetic related variations that affect response to drugs.

a5. Recognize the rational and general guidelines of the use of drugs in the proper dose in special population such as pediatrics, geriatrics, pregnancy and lactation and in cases of liver and/or kidney impairment.

a6. Mention the principles of quality assurance in therapy with different drugs & drug abuse.

a7. Expect the effect of medical practice on surrounding environment ,and how to develop and protect environment.

#### **b-intellectual skills**

*By the end of the course, students should be able to:*

b1.Monitor the effectiveness and toxicity of therapy.

b2.Argue, and discuss medical issues on evidence based manner

b3.Plan to develop progress in his career practice.

#### **c-Professional &practical skills**

*By the end of the course, students should be able to:*

**C1.** Demonstrate skills and knowledge required to perform laboratory experiments safely with appropriate equipment.

**C2.** Practice and interpret drug related research

**C3-Learn** regarding principles, concepts and applications of cell culture.

**C4-perform** and standardizes the preclinical characterizations of nanomaterials.

So that , candidates can pursue productive and satisfying research, teaching, or related biomedical career .

#### **d-General transferable skills**

*By the end of the course, students should be able to:*

d1 Use different learning recourses to get knowledge and information.

d2 Communicate effectively with his colleagues.

d3 Apply self evaluation and specify his medical educational needs , and perform continuous medical education.

d4 Manage scientific seminars , with good time management, and develop their communicative abilities within the various formats of presentations.

3-Course contents

| Topics                                       | Theoretical \ actual h   | Credit hours | Practical  | Credit hours |
|--|--|--------------|--|--------------|
| - General pharmacology<br>- Drug development | Absorption (15h)<br>Distribution(15h)<br>Metabolism(10h),<br>Excretion(10h),<br>Mechanism of Drug action(5h),drug receptor interaction(5h),<br>-Pharmacodynamics interaction(10h),<br>-Factors modifying drug action(10h),<br>-Adverse drug reactions(10h),Drug-drug interaction(10h)<br>-Drug development(5h) | 7            | Calculation of drug dosage and kinetics (5h)<br>-Cell culture (10h)<br>Cell culture and aseptic techniques<br>Cytotoxicity assay (MTT assay) and data analysis<br>live cell staining and imaging.<br>-<br>Nanopharmacology(15h)<br>Develop and maintain a standardized analytical cascade that characterizes nanoparticles physical and chemical attributes their in vitro biological properties and their in vivo compatibility with preclinical toxicology, pharmacology and efficacy study. | 1            |

4-Teaching and learning methods

| Teaching Method      | ILOS Covered                  |
|----------------------|-------------------------------|
| Illustrated lectures | a1,a3,a5,a14,a7,a16,a9,a10 b1 |

| Teaching Method             | ILOS Covered                           |
|-----------------------------|--|
| Tutorial sessions           | a11, a12, a13,a6,a15,a8,b3, b4, b5, d1 |
| Practical Training          | c1, c2, c3,c4,c5,c6                    |
| Teaching under observation, | c1, c2. c3                             |
| PBL                         | b1, b2, b3, b4, b6,d1,2,3              |

#### 5-Student Assessment

5.1...Practical .to assess (c1,C2,C3,C4)

5.2 ...Oral ... .to

assess...(a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11,a12,a13,a1,a15,a16,b1,b2,b3,b4)

5.3...Written to assess

(a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11,a12,a13,a1,a15,a16,b1,b2,b3,b4)

5.4 Logbook to assess (Preparing Seminars to assess (a2,4,b4,5,6 , d1,2,3,4)

- Assessment schedule

#### 6- Weighing of assessments

درجة الدكتوراه في الفارماكولوجيا الطبية  
Medical Doctorate in Medical Pharmacology (PHAR 900)

| الإمتحانات    |        |      |      |     |             | المنهج           |           |  |
|---------------|--------|------|------|-----|-------------|------------------|-----------|--|
| مجموع الدرجات | التبني | شاقو | عملي | نور | عدد الأوراق | المساعات المعتدة | الكود     | المقرر الدراسي   |
| ٢٥٠           |        | 50   | 75   | ١٢٥ | ١           | ٨                | PHAR 9001 | - مقرر علمي وصلي في أسس علم الأدوية العلم وتطوير الأدوية |
|               |        |      |      |     |             | ١                |           | مقررات اختيارية  |
|               |        |      |      |     |             | ١                |           | لمنحة علمية  |

#### 7- List of references

7-1 Essential books (text books):

-Goodman & Gilman's : The Pharmacological Basis of Therapeutics.

-Basic & Clinical Pharmacology (ed. G. Katzung) .

7-2Recommended books:

- Pharmacology (ed. Rang H.P.& Dale M.).

-Lippincott (illustrated pharmacology Review).

- Pharmacology board review (Gary C. Rosenfeld & David S. Loose)

- Clinical Pharmacology (DR. laurence).

**7-3- Periodical, web sites:**

- Br. J. Pharmacology

- Biochemical Pharmacology

- www.biomedcentral.com

- www.Pubmed.Com

- www.medscape.Com

www.eulc.edu.eg

www.ScienceDirect.Com

www.WileyBlackwell.com

www.Springer.com

**9- We certify that all of the information required to deliver this course is contained in the above specifications and will be implemented**

We verify that the above Course and the analysis of students and external evaluator opinions are accurate.

Course coordinator

name.....signature.....Date.....

head of department

name.....signature.....Date.....

Head of quality assurance unit:

name.....signature.....Date.....

We verify that the above Course and the analysis of students and external evaluator opinions are accurate.

Course coordinator and head of department

name.....signature.....Date.....

Head of quality assurance unit:

name.....signature.....Date.....