



**Quality Assurance Unit**



**Tanta University  
Faculty of Medicine**

**Department of Pharmacology**

**Course specifications**

**Pharmacology Doctorate Degree (6<sup>th</sup> semester)**

**(2021 Bylaw)**

**2021/2022**

**Pharmacology Doctorate degree course specifications**

**University: Tanta**

**Faculty: Medicine**

**Department: 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: PHAR9006**

**5- Level: *Second part.***

**6- No. of Credit**

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

**Obligatory courses: 8 credits hours including: 7credit hours lectures and 1 credit hours practical**

**Elective courses: 1 credits hours**

**Scientific activities: 1 credits hours**

**Thesis: 12 credit hours**

**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. Fleur Fathi Abd El monem Prof. Of pharmacology, Tanta faculty of medicine**

**9-External Evaluator of the course: Prof. Dr. Nageh Al Mahdy professor of Pharmacy, Tanta university**

**10- Course Coordinator: Dr. Amira Ahmed El-Saadany, assistant professor of Pharmacology, Tanta Faculty of Medicine**

**11- Authorization date of course specification: 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:
  - The ways that drugs work and affect the human body at the molecular, cellular, organ and organism level in both health and disease and their therapeutic applications in various diseases.
  - Learning drug adverse effects including toxicity, contraindications 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 and 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, and the cellular and molecular mechanisms of drug actions of different groups of drugs affecting body systems with emphasis on gene-based approaches.**
- a3. Mention the adverse and toxic effects of commonly used drug groups, and their management.**
- a4. Give an account on limitations to the use of drugs such as contraindications and drug interactions.**
- a5. Define clinically relevant age, sex and genetic related variations that affect response to drugs.**
- a6. Describe the mechanism of action of drugs with regard to pathophysiology of common diseases and explain the rational basis for proper choice of drugs in treating them.**
- a7 Mention the impact of preventive pharmacology in promoting health and prevention of illness.**
- a8 . Define the principles, indications, the relative advantages and disadvantages of various pharmacotherapy modalities.**
- a9 . 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.**
- a10 . Mention the role, prevalence and limitations of alternative and complementary therapies commonly in use.**
- a11. List the principles and applications of gene therapy.**
- a12. Recognize the principles of non-pharmacological therapies and their role in the management of diseases.**
- a13. Expect the relative risks and benefits of options of commonly used drugs.**
- a14. Demonstrate a knowledge of drugs that relieve pain and ameliorate the suffering of patients The principles, methods, ethics, and various tools of medical researches.**

a15. Mention the principles of quality assurance in therapy with different drugs & drug abuse.

a16. 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:*

b1Analyze medical information to elicit new conclusions.

b2Innovate solutions to medical problems in pharmacology with potential creativity.

b3Design rational therapeutic strategies for both acute and chronic clinical conditions and take into account the various variables that influence these strategies and evaluate risks in medical practice.

b4Monitor the effectiveness and toxicity of therapy.

b5Argue, and discuss medical issues on evidence based manner.

b6Plan to develop progress in his career practice.

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

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

c1- Practice his career in Pharmacology in a professional manner.

c2-. Demonstrate skills and knowledge required to perform laboratory experiments safely with appropriate equipment.

c3- Practice and interpret drug related research.

c4- follow a written schedule in a laboratory setting over a range of methodologies and to know and be able to observe appropriate safety measures to ensure safe working.

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 Teach others and evaluate them**

**d4 practice team working ,and lead a team in specified professional job**

**d5 Apply self evaluation and specify his medical educational needs , and Perform continuous medical education..**

**d6 Manage scientific seminars , with good time management, and develop their communicative abilities within the various formats of presentations**

### 3-Course contents

	Course contents	Credit hours
Obligatory courses	Drug therapy of pregnant Drug therapy of pediatric Drug therapy of geriatric Drug of choice in different clinical conditions	Drug therapy of pregnant changes in pharmacokinetics and dynamics during pregnancy Drug therapy of pediatric Drug therapy of geriatric changes in pharmacokinetics and dynamics in the two age groups (105hs)
Elective courses	1 course	1 credit hr
Practical	Use of emergency drugs Calculation of doses needed in certain diseases	1 credit hr (30 hrs)

### 4-Teaching and learning methods

Teaching Method	ILOS Covered
Illustrated lectures	a1, a3, b1
Tutorial sessions	a2, a4, b3, b4, b5, d1

Teaching Method	ILOS Covered
Practical Training	c1, c2, c3
Teaching under observation,	c1, c2. c3
PBL	b1, b2, b3, b4, b6

#### 5-Student Assessment

5.1...practical .to assess (c.1-4)?????

5.2 ...oral ... .to assess...(a.1-16,b1-4) 25%

5.3..written MCQ to assess (a1-16,b1,2,3,4) 50%

5.4 logbook to assess (Preparing Seminars to assess (a2,4,b4,5,6 , d1,2,3,4,5,6)  
25%

- Assessment schedule

Assessment	
1.Performance in course work,	3 months
2. End semester exam	15 <sup>th</sup> week of each semester
3. Participation in department activities, such as Journal Club Department Seminar Series and educational work research progress	2 weeks
5. Research progress	6 months

#### 6- Weighing of assessments

الاختبارات					المساعدات المعتمدة	الكود	المقرر الدراسي	عدد المبهمات	
المجموع	شفوي	عملي	تحريري	عدد الاوراق					
250	50	75	125	1	8	PHAR 9001	مقرر علمي وعملي في أسس علم الادوية العام و تطوير الادوية	1	الجزء الاول
					1		مقرر اختياري		
					1		انشطة علمية		
					10				
1250	250	375	625	3			يستوفي الطالب كل هذه المقررات:		
					8	PHAR 9002	١ مقرر متقدم علمي وعملي في علم الادوية 1		الجزء الثاني
					8	PHAR 9003	٢ مقرر متقدم علمي وعملي في علم الادوية 2		
					8	PHAR 9004	٣ مقرر متقدم علمي وعملي في علم الادوية التطبيقية		
					8	PHAR 9005	٤ مقرر في علم الادوية الدقيق		
					8	PHAR 9006	٥ مقرر في علم الادوية الجزيئي		
					5		مقرر اختياري		
					5		انشطة علمية		
					50				
1500	300	450	750	4	60			6	المجموع
					12				الرسالة

## 7- List of references

### 7-1 Essential books (text books):

- Goodman & Gilman's : The Pharmacological Basis of Therapeutics.
- Basic & Clinical Pharmacology (ed. G. Katzung).

### 7-2 Recommended 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. biomed central com.
- www. Pubmed. Com
- www. medscape. Com.
- www.eulc.edu.eg
- www. Science direct. Com
- www.Wiley Blackwell.com
- www.Springer.com

## 8-Program assessment and evaluation:

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 and head of department

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

Head of quality assurance unit:

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