

Pharmacology I**PO 701****University:** Beni-Sueif**Faculty:** Pharmacy**Program in which the course is given:** Bachelor of Pharmaceutical Sciences (Clinical Pharmacy)**Department responsible for offering the course:** Department of Pharmacology and Toxicology**Department responsible for teaching the course:** Department of Pharmacology and Toxicology**Academic year:** Fourth year, first semester**Date of Specification Approval:** 10/2/2007**A- Basic information****Title:** Pharmacology I**Code:** **PO 701****Credit hours (# of credit hours/week):** Lecture 2

Practical 1

Total 3

Course Coordinator: Dr. Basim Anwar Shehata**B- Professional information****1- Overall aims of course:**

The aim of the course is to ensure that students have the necessary knowledge and skills enabling them to develop professional competence in the recognition, analysis and discussion of the pharmacological aspects of drugs affecting the major body organs and system pertinent to this course and the application of the these competencies in the specialist areas.

2- Intended Learning Outcomes (ILOs)**a. Knowledge and Understanding:**

Having successfully completed this course, students will be able to demonstrate detailed clear comprehensive knowledge and full confident understanding of the drugs acting on the following systems and organs:

1. The autonomic nervous system,
2. The somatic nervous system,
3. The respiratory system,
4. The gastrointestinal tract,
5. The urinary tract,
6. The blood,
7. and the joints.

They also demonstrate knowledge and understanding of the etiology of disorders affecting the

aforementioned systems and organs including the following diseases:

1. Mysethnia gravis disease, Alzeheimer's disease, Anxiety and insomnia, Depression, Pain, Epilepsy,
2. Hypertension, Angina, Congestive heart failure, Cardiac arrhythmias,
3. Throtnboembolic diseases, Hyperlipoproteinaemias, Anaemia,
- 4-Inflammatory joint disorders
- 5- Peptic and duodenal ulcers
- 6- Bronchial asthma

Having successfully completed this course, students - working autonomously or with minimal guidance where appropriate - will be able to apply knowledge and understanding of the theoretical and practical sections of this course, to achieve higher competencies, as described under the following categories of skills:

b. Intellectual Skills

1. Recognize the mechanism of action, pharmacological effects, therapeutic uses, adverse effects, contraindications and drug interactions.
2. Predict the pharmacological aspects of individual drugs that their names were not covered by the course contents, once provided with their pharmacological class.
3. Carry out confident and accurate selection of the drugs to be used in different disorders within the context of the studied pharmacological classes.
4. Integrate theory with professional practice.
5. Conduct a search on individual drugs using all the available recourses.

c. Professional and Practical Skills

1. Demonstrate confident oral and written application of knowledge and skills gained within the context of this course.
2. Demonstrate professional competence in selecting appropriate therapy for different disorders covered in this course.
3. Carry out appropriate experiments to diagnose and describe the pharmacological aspects of unknown drugs.
4. Use effectively the experimental animals, used during the practical sections, bearing in mind technical, safety and ethical limitations.
5. Present quality oral and written presentations, regarding drug profiles. d.

General and Transferable Skills

Communication:

1. Write structured reports including full material and give oral presentations
2. Engage effectively in oral and written communications with members of the health medical profession

3. Engage effectively in a range of independent roles; debate in a confident professional manner; produce coherent reports to professional standards; give confident quality oral and other presentations in a wide range of contexts.

IT Skills:

4. Use current IT facilities, including on-line internet information.
5. Practice and demonstrate literature retrieval skills.

Group Working

6. Work effectively as part of team to collect data and/or to produce reports and presentations
7. Interact confidently within a range of learning and professional groups, .
8. Demonstrate appropriate negotiating role, leadership and group-support skills.

Self Learning:

9. Set realistic plan work to meet targets within deadlines
10. Direct and manage own learning using the full range of resources and study techniques appropriate to the specialist areas covered by the course.

3- Course Contents**A. Theoretical Course**

Topics	Hours	Instructor
GENERAL INTRODUCTION		
Overview Principles of pharmacokinetics: Absorption, distribution, biotransformation and elimination of drugs. Principles of pharmacodynamics: General mechanism of drug action and drug-receptor interaction	5	Dr. Basim Anwar
Drugs Acting on Autonomic Nervous System		
Introduction of the ANS pharmacology -divisions of the ANS -steps involved in the ANS parasympathomimetics parasympatholytics sympathomimetics sympatholytics sympathetic depressants	14	Dr. Basim Anwar
Somatic nervous system		

Skeletal muscle relaxants Local anaesthetics	2	Dr. Amira Morad
Autacoids		
Amines: histamine, serotonin and their antagonist Peptides: angiotensin II, kinins.....etc Eicosanoids: prostaglandins, lipoic acids.....etc Nitric oxide	4	Dr. Amira Morad
Tutorial	2	Dr. Amira Morad
Total Number	27	

B. practical Course

Topics	Number of Experiments	No. of Hours (Number of Laboratory Sessions)
Handling of experimental animals. Different routes of drug administration, and their effect on drug onset time. Format (scheme) for identification of an unknown drug in an <i>in vivo</i> experiment.	10	4(1)
Effects of the drugs acting on the autonomic nervous system, <i>in vivo</i> . Demonstration of the concept of drug-drug interaction (antagonism), <i>in vivo</i>	5	4 (1)
Effects of the skeletal muscle relaxants (peripherally and centrally acting drugs), <i>in vivo</i> .	2	4 (1)
Determination of the site of action of the drugs acting on the cardiac muscle preparation (isolated frog heart), <i>in vitro</i> .	1	6 (2)
Drug profile (student's presentations).	7	6 (2)

Total Number	25	24 (excluding the time for revision, and for exams, either practical or written as sheet)
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4- Teaching and Learning Methods:

Lectures, practical laboratory sections, tutorial, as well as students oral and written presentations are applied. The group working skills are fostered by classifying students into groups, each of 10 to 20. Each group is responsible for carrying out assignments, and only a randomized representative is chosen on the time of evaluation to present the work of the whole group. The earned grade will be the same for the whole group, depending on the performance of the selected representative student.

5- Student Assessment Methods:

1. Semester work (practical sections activities, drug profiles or other assignments delivered as reports and oral presentations).
2. Sheet examination.
3. Practical examination.
4. and Final written and oral examinations.

Assessment Schedule

Assessment 1: Sheet exam	Week 8 or 9
Assessment 2: Periodical Exam.....	Week 10-11
Assessment 3: Practical Exam	Week 13-14
Assessment 4: Final Written Exam.....	Week 14 - 16
Assessment 5: Final Oral Exam	Week 14 - 16

Weighting of Assessments

Type of Assessment	Marks	Weight (%)
Periodical exam	10	10%
Practical exam	25	25%
Final Written exam	50	50%
Final Oral exam	15	15%
Total	100	100%

6- List of References

- Pharmacology: Rang, W *Ritier*, last edition.
- Basic and Clinical Pharmacology: *E.G. Katzung*, last edition.
- Goodman and Gillman's Pharmacological Basis of Therapeutics: last edition
- All these textbooks are available in the library of the Faculty of Pharmacy -Cairo University.

7- Facilities Required for Teaching and Learning

In addition to the usual facilities including the black and white boards, white screen, and overhead projectors, computers aided with data show apparatus and TV displayer attached to videos are required.

Course coordinator: Dr. Basim Anwar Shehata

Head of department: Prof. Dr. Dean of the Faculty of Pharmacy

Date: 2/8/2016