

نموذج وصف المقرر

مراجعة أداء مؤسسات التعليم العالي ((مراجعة البرنامج الأكاديمي))

Al-Qadisiyah University - College Of Medicine
Department Of Pharmacology and Therapeutics

Course title: **Pharmacology**

Code: **PHR333**

- ❖ Department offering the course: Pharmacology and Therapeutics.
- ❖ College providing the course is College of Medicine
- ❖ College offering degree is M.B.Ch.B.

A) **General Information:**

- ❖ Course duration: 30 weeks.
- ❖ Teaching hours: 180 hours (**Theoretical:** 120 hours+ **Practical:** 60 hours).
- ❖ Allocated marks: 100 marks.

B) **Academic Information:**

1- **Aims of the Course:**

- ❖ To provide the basic knowledge regarding the commonly used groups of drugs that affect human body systems and their implication in therapy of disease and health promotion.
- ❖ To enable students understanding the safe use of drugs in respect to adverse effects, contraindications and drug interactions.
- ❖ To ensure that students having enough skills and attitude towards selection and use of drugs on rational bases.

2- **Intended Learning Outcomes (ILOs):**

a- **Knowledge and understanding:**

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

- 1-Describe the pharmacokinetic, pharmacodynamic and pharmacotherapeutic properties of different groups of drugs affecting body systems.
- 2-Describe the adverse and toxic effects, and their management of commonly used groups of drugs.
- 3-Define the limitations to the use of drugs such as contraindications and drug interactions.
- 4-Explain clinically relevant age, sex and genetic related variations that affect response to drugs.
- 5-Describe the pathophysiology of diseases and explain the rational basis for the use of drugs.
- 6-Explain the impact of preventive pharmacology in promoting health and prevent illness.
- 7- Describe the use of life saving drugs.
- 8-Define the principles and applications of gene therapy.
- 9-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 kidney impairment.
- 12-Define the basis of pharmaco-economics.

b- Professional and practical skills:

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

- 1- Work out drug dosage based on patient's criteria and health condition.
- 2- Write safe prescriptions for selected common and important diseases.
- 3- Practice enteral, parenteral, inhalation; including the use of nebulizers; and topical methods for drug administration.
- 4- Design rational therapeutic strategies for both acute and chronic conditions that take into account the various variables that influence these strategies.

c- Professional Attitude and Behavioral Skills:

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

- 1- Respect the patient right to know and share in decision making as regards the choice of drugs.
- 2- Understand and respect the different cultural beliefs and values that affect the use of certain drug groups.
- 3- Respect ethics related to drug prescription and use especially to drugs liable to produce abuse.

d- Communication and Intellectual Skills:

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

- 1- Analyze the mode and mechanism of action of known and unknown drugs on various biological tissues and systems.
- 2- Calculate accurately drug's dosage, bioavailability, plasma half life and volume of distribution in different patient populations.
- 3- Combine clinical and investigational data with evidence based knowledge for clinical problem solving.
- 4- Design a pharmacological plan for management of common diseases and emergencies.

e- Transferable skills:

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

- 1- Adopt the principles of lifelong learning needed for continuous professional development.
- 2- Use computers effectively in reaching biomedical information to remain current with advances in knowledge and practice.
- 3- Present information clearly in written, electronic and verbal forms.

3- Course contents:

Topics	Teaching hours	
	Lectures	Practical & Clinical
1- General pharmacology	11	6
2- Autonomic Nervous System	16	6
3- Ocular Pharmacology	2	4
4- Skeletal muscle relaxants	2	1
5- Autacoids and their modulators	4	1
6- Respiration	4	2
7- Renal pharmacology	4	1
8- Cardio-vascular pharmacology	16	10
9- Blood and blood forming organs	5	1
10- Psycho-neuro-pharmacology	16	2
11- Hormones and their antagonists	11	3
12- Gastro-Intestinal tract	6	3
13- Chemotherapy + Local Antiseptics	16	4
14- Drug interactions	2	2
15- Chelating agents	1	2
16- Vitamins and food supplements	1	2
17- Immuno-pharmacology	1	2
18- Pharmaco-economics	1	2
19- Pharmacogenetics	1	2

20- Prescription writing	-	3
21- Evidence based medicine	-	2
Total	120	60

3-A) TOPICS:

1. General pharmacology: routes of drug administration, pharmacokinetics, Pharmacodynamics and use of drugs in special population and situations such as geriatrics. Basis of alternative and complementary medicine
2. Autonomic nervous system and drugs affecting the ganglia.
3. Ocular pharmacology: drugs affecting the eye and treatment of glaucoma.
4. Skeletal muscle relaxants: centrally and peripherally acting drugs.
5. Autacoids: histamine, serotonin, endogenous peptides and eicosanoids, and their modulators.
6. Respiration: cough therapy and treatment of bronchial asthma.
7. Renal pharmacology: Diuretics, acidification and alkalinization of urine.
8. Cardiovascular system: Anti-hypertensive drugs and treatment of ischemic heart diseases, heart failure and dysrhythmias.
9. Blood and blood forming organs: Treatment of coagulation defects, anemia and dyslipidemia.
10. CNS pharmacology: analgesics, sedatives, hypnotics and anxiolytics, antipsychotics, antidepressants, anticonvulsants and antiparkinsonism. General and local anaesthesia and .N.S. stimulants.
11. Hormones and their antagonists: insulin, oral hypoglycemic, adrenal steroids, thyroid gland, sex hormones, pituitary hormones and calcium homeostasis.
12. G.I.T.: acid disorders, emetic and ant emetic drugs and purgatives.
13. Chemotherapy : B- lactam antibiotics, Aminoglycosides, broad spectrum antibiotics, macrolide, quinolones , sulphonamides, antifungal, antiviral, therapy of tuberculosis, anti-amoebic, anti alarial, antibilharzial and cancer chemotherapy.
14. Drug interaction.

15. Chelating agents.
16. Vitamins and food supplements.
17. Immunopharmacology
18. Pharmaco- economics.
19. Pharmacogenetics.
20. Prescription writing.

3-B) Practical & Applied Pharmacology (15 classes):

- 1- Definitions and nomenclature (2 weeks).
- 2- Drug Dosage forms (2 weeks)
- 3- Routes of drug administration (2 weeks).
- 3- Prescription writings (2 weeks).
- 4- Variation in response to a fixed dose of drugs (1 week).
- 5- Triple response (1 week).
- 6- Effects of tobacco smoking (1 week).
- 7- Stages of general anesthesia (1 week).
- 8- Drugs acting on the eye (effect on pupil size, I.O.P, and reflexes) (1 week).
- 9- Evaluation of new drugs. (2 weeks).

3-C) Clinical Pharmacology (15 Classes) :

Assignments presented by students on weekly basis as a seminar on provided topics.

4- Teaching and learning methods:

METHODS USED:

1. Lectures.
2. Tutorial (small group teaching).
3. Seminars presented by students.

TEACHING PLAN:

- 1- Lectures: One hour / lecture, five days / week. Students are divided into 4 subgroups.
- 2- Lab Classes: Two hours / week each. Students are divided into 10 groups, which have 3 students in each.
- 3- Clinical Tutorial Classes: Two hours / week each. Students are divided into 10 groups, which are sub-divided into 30 small groups.

Time plan:

Item	Time Schedule	Total hours
1- Lectures	One hour lecture X 5days / Week X 24 weeks	120
2- Experimental classes	One experimental class / week X 2 hours each X 15 weeks	30
3- Clinical Classes	One clinical session / week X 2 hours each X 15 weeks	30
Total	30 weeks	180 hours

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

- 1- Written examination
- 2- Oral examination
- 3- Practical examination
- 4- Assignment

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Quiz exam	Not predetermined
1- First half of the academic year	10
2- Mid-year exam	20
3- Second half of the academic year	10
4- Practical exam	14
5- Final exam	46

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- Quiz exams of first semester	10	10
2- Mid-year	20 theoretical	20
3- Quiz exams of second semester and Assignment	4+6	10
4- Practical	14	14
6- Final written	Short answered question = 20 marks +MCQs = 26 Marks	46
Total	100 Marks	100%

The minimum passing grades (Faculty bylaws) is 50 marks.

5-E) Examinations description:

Examination	Description
1- Quiz exams	Short answered questions, M.C.Qs. and E.M.Qs.
2- First half	Short answered questions, M.C.Qs. and E.M.Qs.
3- Mid-year	Short answered questions, M.C.Qs. and E.M.Qs.
4- Second half	Short answered questions, M.C.Qs. and E.M.Qs.
5- Practical	Objectively structured questions, Table cards, and prescription writing
6- Final written:	Short answered questions, M.C.Qs. and E.M.Qs.
7- Assignments	Present a seminar on provided topics.

6- List of references:

6.1- Principle lectures notes and power points presentations provided by staff members of Pharmacology department.

6.2- Recommended books:

a- "Lippincott's Illustrated Reviews – Pharmacology", editors Harvey R.A. and Champ R.C.

b- "Pharmacology", editors Rang P.A.; et al.

c- "Clinical Pharmacology", editors Laurance D.R. and Bennett P.N.

d- "Basic & Clinical Pharmacology", editor Katzung G.K.

6.3- Technology and websites:

a- C.Ds. prepared by staff members.

b- www.bnf.org

c- www.nice.org.uk

d- www.icp.org.nz/

e- www.pharmacology2000.com

f- www.drugs.com

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

1- Lecture halls:

At the building of lecture halls and the big lecture halls A & B.

2- Laboratory classes:

Laboratories in the Pharmacology department. All labs are equipped with adequate facilities for these types of experiments such as data acquisition and projection electronic devices, organ bath, recording graphs, chemicals and animals.

3- Clinical classes:

Suitably equipped small rooms and two halls in the pharmacology department.

4- Library:

At the first floor of the department.