

Course title: Pharmacology I

Course code: Phar2101

Course EtCTS: 7 EtCTS (189 hrs)

- Lecture: 64 hours
- Laboratory: 30 hours
- Tutorial: 32 hours
- Home study: 40 hours
- Assignment and presentation: 16 hours
- Assessment : 7 hours

Contact hours/ week: $189 - 40 = 149$ hours/ 16 weeks = 9 hours

Pre-requisite if any:

- Biochemistry I and II
- Physiology I and II
- Human Anatomy

Course description:

- This course is designed to enable graduate Pharmacists describe drugs used for treatment, diagnosis and prevention of diseases. Up on completion of this course, students will be able to explain the pharmacological actions, mechanism of actions, adverse reactions, therapeutic uses and pharmacokinetics of drugs affecting the nervous system, respiratory system, gastrointestinal system and autacoids. In addition to attending class room sessions, students will have the opportunity to work in Pharmacology Laboratory and will be able to practice selected basic experimental demonstration

Course objectives:

- At the end of this course, students will be able to describe drugs acting on the nervous system, respiratory system, gastrointestinal system and explain autacoids and drug therapy of inflammation.

Schedule of contact time, contents/topics & reading/reference materials for each topic

Week	Contact hrs	Topic/sub-topic/chapter	Reading materials
One	9	1. General pharmacology  Introduction: Definition, Scope and Branches of Pharmacology History of Pharmacology, Drug: Definition, Sources and Nomenclature  Pharmacokinetics: ❖ Introduction, Absorption of Drugs and Routs of Drug Administration ❖ Drug Distribution ❖ Biotransformation ❖ Elimination of Drugs	A, B
Two	6	❖ Basics of Clinical Pharmacokinetics and Posology  Pharmacodynamics: ❖ Introduction, Receptors and General Mechanisms of Drug Action ❖ Drug Receptor Interaction: Drug Receptor Theories, Dose-Response Relationships, Receptor-Effector Coupling and Spare Receptors	A, B
Three	6	❖ Pharmacodynamic Drug Interactions ❖ Adverse Drug Reactions, Describing Drug Toxicity (LD ₅₀ and Therapeutic Index) ❖ Development and Evaluation of New Drugs ❖ Gene Therapy	A, B, D
Four	9	2. Drug affecting the autonomic nervous system  Anatomy and Physiology of the Autonomic Nervous System  Autonomic Neurotransmission:  Classification of Autonomic Drugs ❖ Cholinoceptor Blocking Drugs: Antimuscarinic Drugs ❖ Ganglionic Blocking Drugs, Neuromuscular Blocking Drugs	B
Five	9	❖ Sympathomimetic Drugs: Direct Acting Sympathomimetics, Indirect Acting Sympathomimetics	B
Six	6	❖ Adrenergic Receptor Blocking Drugs: Adrenergic Receptor Antagonists, β -Adrenergic Receptor Antagonists, Combined, Adrenergic Receptor Blocking Agents	B

Seven	9	3. Drugs acting on the central nervous system	A, E
		- Anatomy and Physiology of the Central Nervous System - Central Neurotransmitters, Classification of CNS Drugs - General Anesthetics - Anaesthetics - Sedatives and Hypnotics: Benzodiazepines, Non-Benzodiazepines, Barbiturates	
Eight	9	- Aliphatic Alcohols - Centrally Acting Muscle Relaxants - Opioid Analgesics and Antagonists - Analeptics/ CNS Stimulants/ and Psychotomimetics	A, E
Nine	9	- General Aspects of Psychopharmacology - Drugs for the treatment of Psychosis (Antipsychotics)	A, E
Ten	9	- Drugs for the treatment of Depression - Drugs for the treatment of Anxiety and Mood Disorders - Drugs for the treatment of Neurodegenerative Disorders	A, E
Eleven	9	- Antiepileptic Drugs - Social Pharmacology: Drug Dependence	A, E
Twelve	9	4. Autacoids and drug therapy of inflammation	B, D
		- Histamine and Its Antagonists 5-Hydroxytryptamine and Its Antagonists; Bradykinin and Its Antagonists - Lipid Derived Autocoids/Ecosanoids/ and Platelet Activating Factor/PAF/	
Thirteen	9	- Analgesic and Antipyretics: Non-Steroidal - Anti-inflammatory Drugs, Treatment of Rheumatoid Arthritis and Gout	B, D
Fourteen	9	5. Drugs Acting on the Respiratory System	C
		- Drugs for the Treatment of Asthma - Antitussives, Expectorants and Nasal Decongestants (1hr)	

Fifteen 9

6. Drugs Acting on the Gastrointestinal System

- ✚ Drugs for the treatment of Peptic Ulcer Disease
- ✚ Drugs for the Treatment of Constipation: Laxatives and Cathartics; Drugs for the Treatment of Diarrhea:
- ✚ Antidiarrheals, Emetics and Antiemetics, Digestants

B

Delivery mode/methodology:

- Active learning methods (brain storming, buzz group, discussion, etc), Lecture, group and individual presentation, assignment, project work, and laboratory work.

Assessment mechanisms:

Continuous assessment & summative assessment

- Quiz (10%)
- Test: 15%
- Assignments (15%)
- Laboratory Report (20%)
- Final Exam (40%)
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References:

- A. Goodman and Gilman's: The Pharmacological Basis of Therapeutics; 10th or later edition.
- B. Katzung B.G.: Basic and Clinical Pharmacology: 9th or latter edition
- C. Rang H.P. and Dale M.M. : Pharmacology; 5th edition
- D. Mycek M.J. Harvey R.A. Lipincott's Illustrated Reviews: Pharmacology; 4nd and later edition
- E. Richard A. LEHNE. Pharmacology for Nursing care. 5th and later editions.