

International School of Medicine / Medicine (English)

2023 - 2024 Academic Year

PHARMACOLOGY

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
PHARMACOLOGY	ISM3015438	Yearly	90+0	0	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Committee Course				
Course Coordinator	Prof.Dr. Amina Mahdy SALLAM				
Name of Lecturer(s)	Prof.Dr. Amina Mahdy SALLAM, Assoc.Prof. Volkan AYDIN				
Assistant(s)					
Aim	To teach the general pharmacology subjects and the pharmacological properties of drugs that affect body systems.				
Course Content	<p>This course contains; Introduction to Pharmacology, Pharmacological Evaluation of New Drugs, Drug Absorption & Distribution & Metabolism, Histamine, Serotonin, Autacoids, Clinical Evaluation of New Drugs, Toxic Effects of Drugs, Pharmacogenetic, Eicosanoids, Peptide Autacoids, Nitric Oxide, Drug Administration Routes, Traditional and Complementary Medicine Applications, Drug Excretion, Factors Modifying the Effects of Drugs in Individuals, Dosage Forms of the Drugs, Drug-Receptor Relationship, Principles of Rational Drug Use, Dose-concentration-effect Relationship, Mechanisms of drug actions, Antianemic Drugs, Immunomodulator Drugs, Antineoplastic Agents, Antimicrobial Agents, Pharmacodynamic and pharmacokinetic drug interactions, Monobactams, Beta Lactamase Inhibitors, Carbapenems, Vancomycin, Penicillins, Cephalosporins, Anti-anaerobic Drugs, Aminoglycosides, Sulfonamides & Cotrimoxazole, Tetracycline, Chloramphenicol, Fluoroquinolones, Macrolides, Antiviral Agents, Antifungal Agents, Antiprotozoal Agents, Antihelminthic Agents, Pharmacotherapy of Ectoparasitic Infections, Endocrin System Pharmacology, Agents That Affect Bone Mineral Homeostasis, Pancreatic Hormones, Antidiabetic Drugs, ACTH, Adrenocorticosteroids, Adrenocortical Antagonists, Antihypertensive Agents, Introduction to Autonomic Pharmacology, Drugs Used in Disorders of Coagulation, Antiplatelet Drugs, Anticoagulants and Fibrinolytic Agents, Antianginal Drugs, Cholinceptor-Activating & Cholinceptor-Blocking Drugs, Muscarinic Receptor Agonists, Symptomimetics, Sympatholytics, Nicotine, Ganglion-stimulating Agents, Ganglion Blocking Agents, Drugs used in acid-base and electrolyte imbalance, Vasodilators, Drugs Used in Heart Failure, Hemostatic Agents, Plasma Volume Expanders, Blood and Plasma Products, Agents Used in Dyslipidemia, Antiarrhythmic Drugs, Antihistamines, Antitussive Agents, Cold, Bronchodilators, Expectorants & Surfactants, Vitamins, Therapeutic Use of Oxygen and Other Medical Gases, The Gonadal Hormones & Inhibitors, Contraceptive Agents, Diuretics, Laxatives & Purgatives, Pharmacovigilance, Introduction to Clinical Pharmacology, Emetics & Antiemetics, Drugs used in the treatment of peptic ulcer, Introduction to Central Nervous System Pharmacology, Antipsychotics & Antidepressants, General Anesthetics, Central Nervous System Stimulants & Hallucinations, Narcotic Analgesis, Antiepileptic Drugs, Drug addiction and drugs of abuse, Sedative-Hypnotic Drugs, The Alcohols, The Drugs Used in the Treatment of Headache, The Treatment of Alzheimer's Disease, Antiparkinsonian Drugs, Anti-inflammatory Drugs, Neuromuscular Blocking Drugs, Centrally Acting Muscle Relaxants, Local Anesthetics, Medical Pharmacology (1,2) - Analgesics, anti-inflammatory and management of OA, DMARDs and Pharmacotherapy of RA, Pharmacotherapy of gout and hyperuricemia, Principles of Neuropharmacology, Hypnotics & Sedatives, General & Local Anesthetics, Pharmacotherapy of Degenerative Disorders, Pharmacotherapy in Epilepsy, Pharmacotherapy of Depressive & Anxiety Disorders, Pharmacotherapy of Psychosis & Mania, Opioids & Abused Drugs, - Drugs affecting kidney and electrolytes, - Drugs used in CKD, immunosuppression in transplantation, drug-induced nephrotoxicity, - Drugs used for acid peptic disease, - Drugs used for emesis, Laxatives, antiarrhythmic agents and drugs for IBS, - Drugs used for inflammatory bowel disease, Drugs used in arrhythmia, Drugs used in heart failure, COPD and cough medications, Antihyperlipidemic agents, Drugs used in angina, - Treatment of hypertension, Drugs used in bronchial asthma, Sympathomimetics and sympathetic depressants, Introduction to cardiovascular medications, Corticosteroids Pharmacology, Drugs for treatment of pituitary disorders, Drugs for treatment of diabetes mellitus 1-2-3, Drugs for treatment of hypothyroid disorders.</p>				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. evaluate the basic subjects of the pharmacology.1.1. identify the functions of the drug pharmacokinetics and pharmacodynamics.1.2. explain the functions of drug pharmacokinetics and pharmacodynamics.1.3. summarize the drugs pharmacokinetics and pharmacodynamics.			12, 16, 19, 4, 9	A	
2. evaluate the drug toxicity and addiction.2.1. identify the drug toxicity and abuse.2.2. explain the drug toxicity and their mechanism.2.3. give examples of drug toxicity, and drug abuse.			16, 19, 4, 9	A	
3. evaluate the central nervous system (CNS) drugs.3.1. identify the pharmacokinetics and pharmacodynamics of CNS drugs.3.2. explain the functions such as pharmacokinetics and pharmacodynamics of CNS drugs.3.3. give examples of CNS drugs.			12, 16, 19, 4, 9	A	
4. evaluate the analgesics, anti-inflammatories and anesthetics.4.1. identify the characteristics such as pharmacokinetics and pharmacodynamics of the analgesic, anti-inflammatory and anesthetic drugs.4.2. interpret the mechanisms of analgesic, anti-inflammatory and anesthetic drugs action.4.3. give examples of analgesic, anti-inflammatory and anesthetic drugs.			12, 16, 19, 4, 9	A	
5. explain pharmacokinetics and pharmacodynamics of autonomic drugs. They can also discuss their adverse effect profiles and drug interactions.5.1. summarize the pharmacokinetics, pharmacodynamics, adverse effects, contraindications and drug interactions of the autonomic drugs.5.2. interpret the mechanisms of autonomic drugs.5.3. give examples of autonomic drugs.			12, 13, 16, 19, 4, 9	A	
6. explain the pharmacokinetics and pharmacodynamics of endocrine, cardiovascular, respiratory and gastrointestinal system drugs. They can also discuss their adverse effect profiles and drug interactions.6.1. summarize the pharmacokinetic, pharmacodynamics, adverse effects, contraindications and drug interactions of the endocrine, cardiovascular, respiratory and gastrointestinal system drugs.6.2. interpret the mechanisms of endocrine, cardiovascular, respiratory and gastrointestinal system drugs.6.3. give examples of endocrine, cardiovascular, respiratory and gastrointestinal system drugs.			12, 13, 16, 19, 4, 9	A	
Teaching Methods	12: Problem Solving Method, 13: Case Study Method, 16: Question - Answer Technique, 19: Brainstorming Technique, 4: Inquiry-Based Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to Pharmacology, Pharmacological Evaluation of New Drugs, Drug Absorption & Distribution & Metabolism, Histamine, Serotonin, Autacoids, Clinical Evaluation of New Drugs.	Preparation for the lecture notes previously issued.			
2	Toxic Effects of Drugs, Pharmacogenetic, Eicosanoids, Peptide Autacoids, Nitric Oxide, Drug Administration Routes, Traditional and Complementary Medicine Applications.	Preparation for the lecture notes previously issued.			

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Lecture Schedule		
Sequenc e	Topics	Preliminary Preparation
3	Drug Excretion, Factors Modifying the Effects of Drugs in Individuals, Dosage Forms of the Drugs, Drug-Receptor Relationship, Principles of Rational Drug Use.	Preparation for the lecture notes previously issued.
4	Dose-concentration-effect Relationship, Mechanisms of drug actions.	Preparation for the lecture notes previously issued.
5	Antianemic Drugs, Immunomodulator Drugs, Antineoplastic Agents	Preparation for the lecture notes previously issued.
6	Antimicrobial Agents, Pharmacodynamic and pharmacokinetic drug interactions.	Preparation for the lecture notes previously issued.
7	Monobactams, Beta Lactamase Inhibitors, Carbapenems, Vancomycin, Penicillins, Cephalosporins.	Preparation for the lecture notes previously issued.
8	Anti-anaerobic Drugs, Aminoglycosides.	Preparation for the lecture notes previously issued.
9	Sulfonamides & Cotrimoxazole, Tetracycline, Chloramphenicol, Fluoroquinolones, Macrolides, Antiviral Agents, Antifungal Agents.	Preparation for the lecture notes previously issued.
10	Antiprotozoal Agents, Anthelmintic Agents, Pharmacotherapy of Ectoparasitic Infections.	Preparation for the lecture notes previously issued.
11	Endocrin System Pharmacology.	Preparation for the lecture notes previously issued.
12	Agents That Affect Bone Mineral Homeostasis, Pancreatic Hormones, Antidiabetic Drugs.	Preparation for the lecture notes previously issued.
13	ACTH, Adrenocorticosteroids, Adrenocortical Antagonists.	Preparation for the lecture notes previously issued.
14	Antihypertensive Agents, Introduction to Autonomic Pharmacology, Drugs Used in Disorders of Coagulation, Antiplatelet Drugs, Anticoagulants and Fibrinolytic Agents.	Preparation for the lecture notes previously issued.
15	Antianginal Drugs, Cholinoceptor-Activating & Cholinoceptor-Blocking Drugs, Muscarinic Receptor Agonists, Symphatomimetics, Symphatolytics, Nicotine, Ganglion-stimulating Agents, Ganglion Blocking Agents, Drugs used in acid-base and electrolyte imbalance.	Preparation for the lecture notes previously issued.
16	Vasodilators, Drugs Used in Heart Failure, Hemostatic Agents, Plasma Volume Expanders, Blood and Plasma Products, Agents Used in Dyslipidemia.	Preparation for the lecture notes previously issued.
17	Antiarrhythmic Drugs, Antihistamines, Antitussive Agents, Cold.	Preparation for the lecture notes previously issued.
18	Bronchodilators, Expectorants & Surfactants, Vitamins, Therapeutic Use of Oxygen and Other Medical Gases.	Preparation for the lecture notes previously issued.
19	The Gonadal Hormones & Inhibitors, Contraceptive Agents.	Preparation for the lecture notes previously issued.
20	Diuretics.	Preparation for the lecture notes previously issued.
21	Laxatives & Purgatives, Pharmacovigilance, Introduction to Clinical Pharmacology.	Preparation for the lecture notes previously issued.
22	Emetics & Antiemetics.	Preparation for the lecture notes previously issued.
23	Drugs used in the treatment of peptic ulcer.	Preparation for the lecture notes previously issued.
24	Introduction to Central Nervous System Pharmacology, Antipsychotics & Antidepressants, General Anesthetics.	Preparation for the lecture notes previously issued.
25	Central Nervous System Stimulants & Hallucinations, Narcotic Analgesis, Antiepileptic Drugs, Drug addiction and drugs of abuse.	Önceden verilen ders notuna hazırlık.Preparation for the lecture notes previously issued.
26	Sedative-Hypnotic Drugs, The Alcohols, The Drugs Used in the Treatment of Headache.	Preparation for the lecture notes previously issued.
27	The Treatment of Alzheimer's Disease, Antiparkinsonian Drugs.	Preparation for the lecture notes previously issued.
28	Anti-inflammatory Drugs, Neuromuscular Blocking Drugs, Centrally Acting Muscle Relaxants, Local Anesthetics.	Preparation for the lecture notes previously issued.
29	Medical Pharmacology (1,2) - Analgesics, anti-inflammatory and management of OA	
30	DMARDs and Pharmacotherapy of RA	
31	Pharmacotherapy of gout and hyperuricemia	
32	Principles of Neuropharmacology	
33	Hypnotics & Sedatives	
34	General & Local Anesthetics	
35	Pharmacotherapy of Degenerative Disorders	
36	Pharmacotherapy in Epilepsy	
37	Pharmacotherapy of Depressive & Anxiety Disorders	
38	Pharmacotherapy of Psychosis & Mania	
39	Opioids & Abused Drugs	
40	- Drugs affecting kidney and electrolytes	
41	- Drugs used in CKD, immunosuppression in transplantation, drug-induced nephrotoxicity	
42	- Drugs used for acid peptic disease	
43	- Drugs used for emesis	
44	Laxatives, antidiarrheal agents and drugs for IBS	
45	- Drugs used for inflammatory bowel disease	
46	Drugs used in arrhythmia	
47	Drugs used in heart failure	
48	COPD and cough medications	
49	Antihyperlipidemic agents	
50	Drugs used in angina	

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Sequence	Topics	Preliminary Preparation
51	- Treatment of hypertension	
52	Drugs used in bronchial asthma	
53	Sympathomimetics and sympathetic depressants	
54	Introduction to cardiovascular medications	
55	Corticosteroids Pharmacology	
56	Drugs for treatment of pituitary disorders	
57	Drugs for treatment of diabetes mellitus 1-2-3	
58	Drugs for treatment of hypothyroid disorders	
Evaluation Methods		Weight(%)
Midterm Exam		40
General Exam		60

Resources
1. Kayaalp, SO: Rasyonel Tedavi Yönünden Tibbi Farmakoloji, Ankara. 2. Hardman JG, Limbird LE, Eds.: Goodman and Gilman's The Pharmacological Basis of Therapeutics, New York. 3. Katzung & Trevor: Farmakoloji, Ankara. Goodman & Gilman's Pharmacological Basis of Treatment - / Laurence L. Brunton - John S. Lazo - Keith L. Parker Nobel Medical Bookstores Publications, Istanbul, 2008 Katzung & Trevor's Pharmacology Examination and Board Review: Eighth Edition McGraw-Hill Medical Publishing USA, 2008. Medical Pharmacology in the Direction of Rational Treatment 13th Edition - Prof. Dr. Oğuz Kayaalp, Pelikan Publications, 2012. Pharmacology for Health Sciences - Asist. Prof. A. Arzu SAYIN ŞAKUL, Istanbul Medical Publications, 2021