**Course Description**

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| **Faculty** | **Pharmacy** |
| **Department**  | **Clinical Pharmacy** | **Level** |  |
| **Course**  | Pharmacology II | **Code** | **1702362** | **Prerequisite** | 1702261 |
| **Credit hours** | 3 | **Theoretical**  | 3 | **Practical** | 0 |
| **Coordinator** |  | **Email** |  |
| **Teachers** | Dr. Ahmed Youssef | **Emails** |  |
| **Lecture Time** |  | **Place** |  | **Attendance mode** |  |
| **Semester**  |  | **Preparation date**  |  | **Modification Date** |  |

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|  **Abstracted Course Description**  |
| Pharmacology II covers drugs affecting central Nervous system and psychiatric diseases. Also, it provides drugs that are used for infectious disease such as bacterial, fungal, protozoal and viral infections. |
| **Course Goals** |
| 1-Facilitate efficient comprehension of clinical features associated with specific diseases2-Provide a comprehensive understanding of the principles of drug action.3-Ensure students are familiar with generic names of pivotal drugs in each discussed class.4-Cover the mechanism of pharmacologic action, therapeutic uses, adverse effects, precautions, and contraindications for a thorough understanding. |

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| **CILOs** |
| **Knowledge** |
| A.1 Know how to distinguish drug groups that are used to treat CNS diseases.A.2 Know how to distinguish drug groups that are used for psychiatric diseases.A.3 Know how to distinguish drug groups that are used to treat infectious diseases. |
| **Skills** |
| B.1 Use standard pharmacological definitions, terminology, and approved abbreviations.B.2 Interpret the mechanism of action, actions, therapeutic use, and adverse effects of selected drugs.B.3 Illustrate the clinical features of the cardiovascular diseases efficiently.. |
| **Competencies** |
| C.1 Evaluate the clinical outcomes of the drugs.C.2 Explain drug actions, contraindication, mechanism of action, and side effects C.3. Information analysis and understanding. |
| **Learning Methods** |
| * Lecture material and notes ,Homework and Assignments, Projects, Presentation,
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| **Evaluation Tools** |
| Exams,Presentation, project, assignments. |
| **Week** | **Topics** | **Learning methods** | **Evaluation tool** | **ILOs** | **Hours** |
| **1.** | **Introduction to CNS Physiology** | Lectures | , presentation, project, assignments | **A1,a2,b1,b2,c1** | **3** |
| **2.** | **Drugs Used for parkinson’s disease**1. Levodopa and carbidopa
2. Selegiline and rasagiline
3. Catechol-O-methyltransferase inhibitors
4. Dopamine receptor agonists
5. Amantadine
6. Antimuscarinic agents
 | Lectures | Exams |  | **3** |
| **3.** | **Drugs Used for alzheimer’s disease**1. Acetylcholinesterase inhibitors
2. NMDA receptor antagonist

**Drugs Used for Multiple Sclerosis** | Lectures and Discussions, Homework and Assignments, Projects, Presentation | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **4.** | **Anxiolytic and Hypnotic Drugs**1. Benzodiazepines
2. Barbiturates

Other hypnotic agents (buspirone) | Lectures and Assignments, Projects, Presentation | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **5.** | **Antidepressants**1. Selective serotonin reuptake inhibitors
2. Serotonin/norepinephrine reuptake inhibitors
3. Atypical antidepressants
4. Tricyclic antidepressants

Monoamine oxidase inhibitors | Lectures | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **6.** | **Antipsychotics**1. First-generation antipsychotic
2. Second-generation antipsychotic

**Drugs used to treat mania and Bipolar disorder**1**-**lithium | Lectures | , presentation, project, assignments | **A1,a2,b1,b2,c1** | **3** |
| **7.** | **Drugs for Epilepsy**1. GABA Stimulatnts
2. Na+ Channel blockers
3. T-type calcium Channels blockers
4. M-type potassium channels openers

Multiple mechanism of actions | Lectures and Discussions, Homework and Assignments, Projects, Presentation | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **8.** | **Opioids**1. Strong agonists
2. Moderate/low agonists
3. Mixed agonist–antagonist and

Partial agonists | Lectures and Assignments, Projects, Presentation | Exams | **A1,a2,b1,b2,c1** | **3** |
| **9.** | **CNS stimulants**1. Methylxanthines
2. Nicotine
3. Varenicline
4. Cocaine
5. Amphetamine

Methylphenidate | Lectures | Exams | **A1,a2,b1,b2,c1** | **3** |
| **10.** | **Anesthetics**1. General anesthetics: inhaled
2. General anesthetics: intravenous
3. Local anesthetics: amides

Local anesthetics: esters | Lectures | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **11.** | **Antibiotics**1. Cell wall inhibitors
2. Protein synthesis Inhibitors
3. Fluoroquinolones
4. Inhibitors of folate synthesis
5. Inhibitors of folate reduction

Combination of inhibitors of Folate synthesis and reduction | Lectures and Discussions, Homework and Assignments, Projects, Presentation | , presentation, project, assignments | **,A1,a2,a3,b1,b2,c1,b3,c2,c3** | **3** |
| **12.** | **Antimycobacterials**1. Isoniazid
2. Rifamycins
3. Pyrazinamide
4. Ethambutol
5. Alternate second-line drugs

**Drugs for leprosy****Dapsone****Antifungals**1. Plasma membrane inhibitors
2. Cell Wall inhibitors
3. Mitotic spindle inhibitors
4. ergosterol synthesis inhibitors (Azoles )

DNA synthesis inhibitors | Lectures and Assignments, Projects, Presentation | , presentation, project, assignmentsExams | **A2,a3,b1,b3,c2,c3** | **3** |
| **13** | **Antiprotozoals**1. Drugs for amebiasis
2. Drugs for malaria
3. Drugs for trypanosomiasis
4. Drugs for leishmaniasis
5. Drugs for toxoplasmosis

Drugs for giardiasis**Anthelmintics**1. Drugs for nematodes
2. Drugs for trematodes

Drugs for cestodes | LecturesLectures | ExamsE | **A2,a3,b1,b3,c2,c3** | **3** |
| **14.** | **Antivirals**1. Drugs used For respiratory virus infections
2. Drugs used For hepatic viral infections
3. Drugs used For herpes virus and cytomegalovirus infections
4. Drugs used For HIV:
5. Nucleoside and nucleotide reverse transcriptase inhibitors
6. Non-nucleoside reverse transcriptase inhibitors
7. Protease inhibitors
8. Entry inhibitors
9. Integrase inhibitors

Fixed dose combinations | Lectures and Discussions, Homework and Assignments, Projects, Presentation | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **15** | **FINAL EXAM** |  |
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| **Plan of Course Evaluation** |
| **Evaluation Tools** | **Mark** | **ILOs** |
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| **First Exam (Mid-term)**  | 30% | A1,a2,a3, | B1,b2,b3,b4 |  |  |  |  |
| **Second Exam (If available)** |  |  |  |  |  |  |  |
| **Final Exam** | 50% | **A2,a3,b1,b3,c2,c3** |  |  |  |  |  |
| **Activities** |  |  |
| **Activities Evaluation** | Homework/Tasks | 10% | C1,c2,c3 |  |  |  |  |  |
| Case Study  |  |  |  |  |  |  |  |
| Discussion and Interactions |  |  |  |  |  |  |  |
| Group Activities |  |  |  |  |  |  |  |
| Laboratory Exams |  |  |  |  |  |  |  |
| Presentations |  |  |  |  |  |  |  |
| Quizzes | 10% | A1,A2 |  |  |  |  |  |
| Others |  |  |  |  |  |  |  |
| **Total** | 100% |  |  |  |  |  |  |

 **Components**  |
| **Book** | * Pharmacology Lippincott's illustrated reviews, 6th edition (2015) by Karen Whalen.
* Basic & Clinical Pharmacology, Katzung. 13 Edition
* Clinical Pharmacology & Therapeutics. Ritter JM, Lewis LD, Mant T, Ferro5th edition, 2008
* Clinical Pharmacology. Bennet BN and Brown MJ, 10th edition, 2008
* Goodman & Gilman's the pharmacological basis of therapeutics - 11th ed. (2006).
* Pharmacology. Rang & Dale's, 6th edition, 2007
 |
| **References** |  |
| **Recommended Readings** |  |
| **Electronic materials** |  |
| **Other websites** |  |

**Subject Coordinator:**

**Head of Curriculum Committee:**

**Department Head:**

**Faculty Dean:**

**Last update date:**