**Course Description**

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| **Faculty** | **Pharmacy** | | | | | | |
| **Department** | Pharmaceutical Chemistry | | | **Level** | | | 7 |
| **Course** | Medicinal Chemistry 2 | **Code** | 1703326 | **Prerequisite** | | | 1703323 |
| **Credit hours** | 2 | **Theoretical** |  | **Practical** | | |  |
| **Coordinator** |  | **Email** |  | | | | |
| **Teachers** | Dr. Hayat Albtoush | **Emails** |  | | | | |
| **Lecture Time** |  | **Place** |  | | **Attendance mode** | Face to face | |
| **Semester** |  | **Preparation date** |  | | **Modification Date** |  | |

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| **Abstracted Course Description** |
| This course covers different drug classes including For the clinically applicable drugs affecting autonomic nervous system, CNS depressant, anticonvulsant, general anesthetic, ACE inhibitors, antihyperlipidemic, antianginal and vasodilators . For each drug class mentioned, drug-target, chemical structure and properties, structure-activity relationships, metabolism, and therapeutic uses are discussed |
| **Course Goals** |
| 1. Enabling the student to apply the knowledge from prerequisite course (Medicinal Chemistry 1) on drug classes mentioned above to understand the relationship between the structure and physiochemical properties of the drug classes and their pharmacological activity, selectivity, side effects, toxicity, absorption, metabolism and excretion 2. enabling the students to know the steps of development of each drug class starting from the lead compound to the last drug introduced to the market and the rational for this development. |

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| **CILOs** | | | | | |
| **Knowledge** | | | | | |
| A.1 To correlate physiochemical properties of molecules with their molecular pharmacological activity (SAR).  A.2 To understand the function of drugs affecting autonomic nervous system at the molecular level.  A.3 To appraise the drugs treating hypertension, angina, diabetes, dyslipidemia and f CNS diseases according to pathophysiology of disease. | | | | | |
| **Skills** | | | | | |
| B1 Using SAR to understand drug interactions. And r ecognizing pharmacological agents' side effects.  B2 Suggesting drug combos to minimize side effects. and Avoiding drug interactions using knowledge. | | | | | |
| **Competencies** | | | | | |
| C1 Describing drug actions and metabolism., Understanding drug behavior.  C2 Linking drug properties to chemical structures .and Predicting drug behavior based on structure.  C3 Connecting drug actions to structure, site, and effects and Integrating diverse knowledge for holistic understanding. | | | | | |
| **Learning Methods** | | | | | |
| * Lectures * Oral dissection * Assignment | | | | | |
| **Evaluation Tools** | | | | | |
| **Exams**  **Quiz** | | | | | |
| **Week** | **Topics** | **Learning methods** | **Evaluation tool** | **ILOs** | **Hours** |
| **1.** | Cholinergics, anticholinergics | Textbook and handouts | QUIZ | **A** | **2** |
| **2.** | Cholinergics, anticholinergics | Textbook and handouts |  | **A** | **2** |
| **3.** | Cholinergics, anticholinergics | Textbook and handouts |  | **A** | **2** |
| **4.** | The adrenergic nervous system | Textbook and handouts |  | **A** | **2** |
| **5.** | The adrenergic nervous system | Textbook and handouts |  | **B** | **2** |
| **6.** | Antianginal agents and vasodilators | Textbook and handouts | Exam | **B** | **2** |
| **7.** | ACE inhibitors | Textbook and handouts | Exam | **B** | **2** |
| **8.** | Antihyperlipidemic | Textbook and handouts | **C** | **2** |
| **9.** | Diuretics | Textbook and handouts | Exam | **C** | **2** |
| **10.** | General anesthesia | Textbook and handouts | **C** | **2** |
| **11.** | Anticonvulsant | Textbook and handouts | homework | **A** | **2** |
| **12.** | Central Nervous System Depressants | Textbook and handouts | **AC** | **2** |
| **13.** | Central Nervous System Depressants | Textbook and handouts |  | **AC** | **2** |
| **14.** | Central Nervous System Depressants | Textbook and handouts |  | **AC** | **2** |
| **15** | Final exam |  |  |  | **2** |

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| |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Plan of Course Evaluation** | | | | | | | | | | | | | **Evaluation Tools** | | **Mark** | **ILOs** | | | | | | | | | | **A1** | **A2** | **A3** | **B1** | **B2** | **B3** | **C1** | **C2** | **C3** | | **First Exam (Mid-term)** | | **30%** | \* | \* |  |  | \* |  |  |  | \* | | **Second Exam (If available)** | |  |  |  |  |  |  |  |  |  |  | | **Final Exam** | | **50%** |  |  |  |  |  | \* | \* | \* |  | | **Activities** | | **20%** |  | | | | | | | | | | **Activities Evaluation** | Homework/Tasks | 10% |  |  |  | \* | \* |  | \* |  |  | | Case Study |  |  |  |  |  |  |  |  |  |  | | Discussion and Interactions |  |  |  |  |  |  |  |  |  |  | | Group Activities |  |  |  |  |  |  |  |  |  |  | | Laboratory Exams |  |  |  |  |  |  |  |  |  |  | | Presentations |  |  |  |  |  |  |  |  |  |  | | Quizzes | 10% |  | \* |  |  | \* | \* |  |  | \* | | Others |  |  |  |  |  |  |  |  |  |  | | **Total** | | 100% |  |  |  |  |  |  |  |  |  |   **Components** | |
| **Book** | Primary textbooks: • An Introduction to Medicinal Chemistry, 5rd edition; Graham L. Patrick; Oxford University Press Inc., New York, 2005 • Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry, 11th edition; Delgado & Remers, Eds.; Lippincott Williams & Wilkins: Philadelphia, 2004 ("W&G"). - Secondary refernces: • Foye's Principles of Medicinal Chemistry, 5th edition; David A. Williams, WilliamO. Foye, Thomas L. Lemke; Lippincott Williams & Wilkins: Philadelphia, 2002 |
| **References** | Primary textbooks: • An Introduction to Medicinal Chemistry, 5rd edition; Graham L. Patrick; Oxford University Press Inc., New York, 2005 • Wilson and Gisvold's Textbook of Organic Medicinal and Pharmaceutical Chemistry, 11th edition; Delgado & Remers, Eds.; Lippincott Williams & Wilkins: Philadelphia, 2004 ("W&G"). - Secondary refernces: • Foye's Principles of Medicinal Chemistry, 5th edition; David A. Williams, WilliamO. Foye, Thomas L. Lemke; Lippincott Williams & Wilkins: Philadelphia, 2002 |
| **Recommended Readings** |  |
| **Electronic materials** |  |
| **Other websites** |  |

**Subject Coordinator:**

**Head of Curriculum Committee:**

**Department Head:**

**Faculty Dean:**

**Last update date**