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| **Philadelphia University** |  | **Approved Date:** |
| **Faculty: Pharmacy** | **Issue: 1** |
| **Department:** | **Credit Hours: 3** |
| **Academic Year:** | **Course Syllabus** | **Bachler:** |

**Course Information**

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| --- | --- | --- | --- | --- |
| **Prerequisite** | | **Course Title** | | **Course No.** |
| **0521323** | | **Pharmacology and Advanced Toxicology** | | **0521413** |
| **Room No.** | **Class Time** | | **Course Type** | |
| 609 | **Sat/Mon** | | University Requirement Faculty Requirement   * Major Requirement  Elective Compulsory | |
| **Sun/Tues.**  12.40 – 13.55 | |

**Instructor Information**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Office No.** | **Phone No.** | **Office Hours** | **E-mail** |
| Dr. Yousef Abusamra | 532 | 2201 | **Sat/Mon**  11.00 – 12.30  **Sun/Tues**  10.00 – 12.00 | yabusamra@philadelphia.edu.jo |

**Course Delivery Method**

|  |  |  |  |
| --- | --- | --- | --- |
| **Blended**  **Online  Physical** | | | |
| **Learning Model** | | | |
| **Percentage** | **Synchronous** | **Asynchronous** | **Physical** |
| **100 %** | **0 %** | **100 %** |

**Course Description**

This Module is designed to continue some topics in pharmacology and toxicology. This module deals with the study of the mode of action, adverse effects, clinical application, toxicity of drugs that acts on the cardiovascular diseases such as angina pectoris, heart failure & cardiac arrhythmias as well as the study of diuretic and anti-cancer drugs are also investigated. The interaction of these drugs with each other or with others is also viewed. The second part of this module is dedicated to the study of the poisons particulary the heavy metals, household products, pesticides and pesticides in addition to some animal toxins. Basics and priciples of toxicology in addition to the approaches of treatment will be covered as well.

**Course Learning Outcomes**

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| --- | --- | --- | --- |
| **Number** | **Outcome** | **Corresponding Program**  **Outcomes** | **Corresponding Competencies** |
| **Knowledge** | | |  |
| **K1** | * Classification and profiling in terms of the pharmacokinetic and pharmacodynamic aspects of drugs in the major groups of the cardiovascular system including angina pectoris, heart failure, and cardiac arrhythmia, and drugs used for hypertension and anticancer agents. * Classification and profiling in terms of the pharmacokinetic and toxic aspects of poisons particularly heavy metals, household products, pesticide, and animal toxins. | **Kp1** | **C1** |
| **K2** | * Building knowledge on the routes of drug administration and the effects of drugs on pregnant and lactating women. * Recognize the drug-drug interactions and drug-food interactions and prevent adverse drug reactions in the body. * Building knowledge on the aspects of exposure to poisons and approaches of treatment. | **Kp2** | **C2** |
| **Skills** | | |  |
| **S1** | * Optimizing the safety and efficacy of medication use, preventing the lethal effects of poisons, and minimizing the extent of exposure. * Prediction of the clinical uses, and side effects of drugs and the toxic effects of poisons. * Prediction of the mechanism and the complications of the exposure to the poisons. | **Sp2, Sp4** | **C8, C10** |
| **S2** | * Understanding the main points on drug information to enable a productive interaction with patients and proper counseling for them. * Understanding the main points regarding poisons to help in rapid treatment and life-rescue. | **Sp3** | **C9** |

**Learning Resources**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Textbook** | * **Lippincott, Illustrated Reviews: Pharmacology** by Whalen K, 6th edition, 2018. * **Basic and Clinical Pharmacology by Katzung BG**, Masters SB, Trevor AJ (Editors), McGraw Hill, New York, 14th edition, 2018 ISBN 978-1-259-64115-2. * **Toxicology: the Basic Science of Poisons**, *Casarett and Doulls*, 3ed, 2015, ISBN: 978-007184708-7. * **Clinical Toxicology,** Principles and Mechanisms, 2ed, Frank A. Barile,2010, ISBN: 978-1420092257.  |  |  | | --- | --- | | |  | | --- | | * **A Textbook of Modern Toxicology:** *Ernest HodgsonI,* 4th ed., 2010, ISBN: 978-0470462065. | | |
| **Supporting References** | 1. **Clinical Pharmacology** by Bennett PN, Brown MJ, Sharma PJ, Elsevier, London,12th edition, 2018. 2. **British National Formulary (BNF) Royal Pharmaceutical Society**. UK 79th edition, 2020. |

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| **Supporting Websites** | Philadelphia University e-learning site |
| **Teaching Environment** | **Classroom/laboratory**  **Learning Platform**  **Other** |

**Meetings and Subjects TimeTable**

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| --- | --- | --- | --- | --- |
| **Week** | **Topic** | **Learning Method\*** | **Task** | **Learning Material** |
| **1** | Course Syllabus  Introduction in Hypertension | Lecture |  | * Course Syllabus |
| **2** | Antihypertensive Agents | Lecture |  | \*\* |
| **3** | Diuretics | Lecture | **\*\*\*Quiz 1** |
| Principles of toxicology | Flipped learning and presentation |
| **4** | Heart Failure | Lecture |  |
| Principles of toxicology | Flipped learning and presentation |
| **5** | Angina Pectoris,  Arrhythmias | Lecture |  |
| Principles of toxicology | Flipped learning and presentation |
| **6** | **Mid Exam (TBA)** |  |  |  |
| **6-7** | Basics in Oncology and Introductory Topics  Agents used in cancer treatment  Chemotherapy: :  Antimetabolites | Lecture | **\*\*\*Quiz 2** | \*\* |
| Approaches of management of poisoned patients | Flipped learning and presentation |
| **8** | Chemotherapy:\_  Antibiotics  Steroidal hormones and their antagonists  Selective estrogen receptor modulators  Monoclonal antibodies  Other chemotherapeutic agents | Lecture |  |
| Approaches of management of poisoned patients | Flipped learning and presentation |
| **8-9** | Toxicology of heavy metals | Lecture |  |
| Approaches of management of poisoned patients | Flipped learning and presentation |
| **10** | Toxicology of heavy metals | Lecture | **\*\*\*Quiz 3** |
| Approaches of management of poisoned patients | Flipped learning and presentation |
| **11** | Toxicology of heavy metals | Lecture |  |
| Approaches of management of poisoned patients | Flipped learning and presentation |
| **12** | Toxicology household products and pesticides | Lecture |  |
| **13** | Toxicology household products and pesticides | Lecture |  |
| **14** | Toxicology household products and pesticides | Lecture |  |
| **15** | Toxicology of some animal poisons  ( animal toxins) | Lecture |  |
| **16** | **Final Exam (TBA)** |  |  |  |

\*Includes: lecture, flipped Class, project-based learning, problem-solving-based learning, and collaborative learning.

\*\*As illustrated in the references section.

**\*\*\*Quiz 4: TBA**

**Course Contributing to Learner Skill Development**

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| --- |
| * Using Microsoft Office to prepare reports and presentations * Using online medical applications/ calculators in solving some clinical problems * Using the university’s e-learning site as a supporting reference tool and for term-solving |
| **Communication Skills** |
| * Clinical case presentation and solving * Teamwork and group discussion engagement |
| **Application of Concept Learnt** |
| * Clinical cases solving |



**Using Technology**

**Assessment Methods and Grade Distribution**

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| --- | --- | --- | --- |
| **Assessment Methods** | **Grade** | **Assessment Time (Week No.)** | **Course Outcomes to be Assessed** |
| **Midterm Exam** | **% 30** | **7th week** | **K1-K2 S1-S2** |
| **\*Reports and**  **Projects** | **% 30** | **Continuous** | **K1-K2**  **S1-S2** |
| **Final Exam** | **% 40** | **16th week** | **K1-K2 S1-S2** |
| **Total** | **%100** |  |  |

\* Include quizzes, in-class and out-of-class assignments, presentations, reports, videotaped assignments, and group or individual projects.

**Alignment of Course Outcomes with Learning and Assessment Methods**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number** | | **Learning Outcomes** | | **Corresponding**  **Competencies** | | **Learning**  **Method\*** | | **Assessment**  **Method\*\*** |
| **Knowledge** | | | | | | | | |
| **K1** | * Classify the Major groups of cardiovascular drugs, and identify the drugs that are used for angina pectoris, heart failure and cardiac arrhythmia, Anticancer agents, drugs used in gout, and nonsteroidal anti-inflammatory drugs * Identify pharmacokinetics and pharmacodynamics of drugs, indication and, clinical uses, side   effects and contraindications. | | | C1 | Lecture | | Exams | |
| **K2** | * Build knowledge on routes of drug administration, effects of drugs on pregnant and lactating   women. | | | C2 | Lecture | | Exams | | |
|  | * Recognize the drug-drug interaction and drug-food interaction and prevent adverse   drug reactions on the body. | |  | |  | |  | | |
| Skills | | | | | | | | | |
| **S1** | * Optimize the safety and efficacy of medication use * Prediction of the clinical uses, and side effects by knowing the pharmacokinetic   &pharmacodynamics of drug | | C8, C10 | | Lecture | | Exams | | |
| **S2** | Understanding drug information points will enable a productive interaction with patients  and proper counseling for them | | C9 | | Lecture | | Exams | | |

\*Include lecture, flipped class, project-based learning, problem-solving-based learning, and collaborative learning.

\*\* Include quizzes, in-class and out-of-class assignments, presentations, reports, videotaped assignments, and group or individual projects.

**Course Policies**

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| --- | --- |
| **Policy** | **Policy Requirements** |
| **Passing Grade** | The minimum pass for the course is (50%) and the minimum final mark is  (35%). |
| **Missing Exams** | * Anyone absent from a declared semester exam without a sick or compulsive excuse accepted by the dean of the college that proposes the course, a zero mark shall be placed on that exam and calculated in his final mark. * Anyone absent from a declared semester exam with a sick or compulsive excuse accepted by the dean of the college that proposes the course must submit proof of his excuse within a week from the date of the excuse’s disappearance, and in this case, the subject teacher must hold a compensation exam for the student. * Anyone absent from a final exam with a sick excuse or a compulsive excuse accepted by the dean of the college that proposes the material must submit proof of his excuse within three days from the date of   holding that exam. |
| **Attendance** | The student is not allowed to be absent more than (15%) of the total hours prescribed for the course, which equates to six lecture days (n t) and seven lectures (days). If the student misses more than (15%) of the total hours prescribed for the course without a satisfactory or compulsive excuse accepted by the dean of the faculty, he is prohibited from taking the final exam and his result in that subject is considered (zero), but if the absence is due to illness or a compulsive excuse accepted by the dean of the college that The article is introduced, it is considered withdrawn from that article,  and the provisions of withdrawal shall apply to it. |
| **Academic Integrity** | Philadelphia University pays special attention to the issue of academic integrity, and the penalties stipulated in the university's instructions are applied to those who are proven to have committed an act that violates academic integrity, such as cheating, plagiarism (academic theft), collusion,  intellectual property rights. |