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| **1** | **Course title** | **Clinical Toxicology** |
| **2** | **Course number** | **(1213563)** |
| **3** | **Credit hours** | 2 hours |
| **Contact hours (theory, practical)** | 2 hours |
| **4** | **Prerequisites/corequisites** | Toxicology (1203562) |
| **5** | **Program title** | BSc. In Pharmacy and Doctor of Pharmacy (Pharm D) |
| **6** | **Program code** |  |
| **7** | **Awarding institution** | The University of Jordan |
| **8** | **School** | Pharmacy |
| **9** | **Department** | Biopharmaceutics & Clinical Pharmacy |
| **10** | **Level of course** | Undergraduate |
| **11** | **Year of study and semester (s)** | 4th and 5th year students |
| **12** | **Final Qualification** | BSc. In Pharmacy and Doctor of Pharmacy (Pharm D) |
| **13** | **Other department (s) involved in teaching the course** | None |
| **14** | **Language of Instruction** | English |
| **15** | **Teaching methodology** | Online |
| **16** | **Electronic platform(s)** | Moodle Microsoft Teams |
| **17** | **Date of production/revision** | February 2021 |

**18 Course Coordinator:**

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| Name: **Dr. Oriana Awwad**  Phone number: **5 355 000, Ext. 23362**  Email: [o.awwad@ju.edu.jo](mailto:o.awwad@ju.edu.jo) |

**19 Other instructors:**

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| NA |

**20 Course Description:**

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| This 2-credit hours course is designed to give pharmacists a background in the medical and toxicological principles of toxicants commonly encountered in poison control centers and emergency departments. Clinical Toxicology covers selected drug classes and their toxic effects on the body as well as treatment approaches. |

**21 Course aims and outcomes:**

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| A- Aims:  **Learning Objectives**  By the end of this course, the students will:   1. Be familiar with the process used to interpret biotoxicological data. 2. List and discuss in details treatment of any poisoned patient. 3. Review and assimilate toxicologic mechanisms and clinical presentation of toxins covered in class. 4. If presented with a case scenario of a patient exposed to a toxin discussed in class, design a comprehensive treatment plan.   B- Intended Learning Outcomes (ILOs):  Upon successful completion of this course, students will be able to:  **A. Knowledge and Understanding:** Student is expected to:  A.1- Expand his knowledge in a critical medical setting  A.2- A.3- Be familiar with the treatment algorithm (toxicants-specific)  A.4- Provide knowledge of the commonly encountered intoxications  A.6- Have knowledge of clinical presentations and the differential lab physical examinations  **B. Intellectual Analytical and Cognitive Skills:** Student is expected to:  B.1- Detect, analyze, and prioritize the medical problems  B.2- Solve common medical problems related to clinical toxicology  B.3- Evaluate risks in clinical toxicology management practice  B.4-Through case discussion, to be able to identify toxin-related problems and recommend the appropriate pharmacological and non-pharmacological treatment methods  **C. Subject-Specific Skills:** Student is expected to:  C.1- Have a critical understanding of the principles underpinning the various  C.2- Through collaboration with poison control center at the Jordan University Hospital, the students will be aware about the most common type on intoxications in Jordan  C.3- Provide knowledge of the most commonly encountered antidotes, their mechanisms of actions, routes of administration and any special precautions  **D. Transferable Key Skills:** Students is expected to:  D.1- Make appropriate therapeutic decisions for individual poisoned patients  D.2- Recognize different resources of toxicology (books, professional sites and scientific journals) and know how to evaluate the big quantity of information available  D.3- Take responsibility for own work and to exercise substantial autonomy and initiative in a learning environment |

**22. Topic Outline and Schedule:**

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| Week 1: Key concepts / Management of ABC abnormalities  Week 2: Management of altered mental status (coma and stupor hypothermia, hyperthermia, seizures) and rhabdomyolysis  Week 3: Clinical toxicology of Antidepressants  Week 4: Clinical toxicology of sedative-hypnotic agents  Week 5: Clinical toxicology of anticoagulants  Week 6: Clinical toxicology of Anti-infective agents  Week 7: Clinical toxicology of Diuretics  Week 8: Clinical toxicology of Digitalis  Week 9: Clinical toxicology of Hypoglycemic Agents  Week 10: Doping  Week 11: Toxic exposure during pregnancy  Week 12: Intoxication in infants and geriatrics |

* **\***Teaching methods include: Synchronous lecturing/meeting using MS Teams during the official time of the lecture
* **\*\***Evaluation methods include: 2 Exams and 1 Assignment
* **\*\*Assignment:** Students will be distributed into groups and should collaborate together to present a material related to one of the topics covered during the semester. The material should be presented as a PPT presentation and a video (less than 5 min.) should be also chosen and exposed during the assigned time.

**23 Evaluation Methods:**

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| Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Evaluation Activity** | **Mark** | **Topic(s)** | **Period (Week)** | **Platform** | | ***Midterm Exam*** | ***30%*** | ***To be announced*** | ***To be announced*** | ***Moodle*** | | ***Final Exam*** | ***50%*** | ***To be announced*** | ***To be announced*** | ***Moodle*** | | ***Assignment*** | ***20%*** | ***To be announced*** | ***During the semester*** | ***Teams*** | |

**24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform…etc):**

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| Students should have an internet connection and a device (computer, mobile) to connect to Moodle and MS Teams platforms with their passwords and user names. Students are required to attend the MS Teams lectures and to follow the eLearning platform for the lectures and any announcement or instruction. |

**25 Course Policies:**

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| Online attendance to the lectures is expected and mandatory.Students who are more than 5-10 minutes late to the online session, or who leave early the teams will be counted as absent.  * First warning – with 4 absences * Last warning – with 5 absences * Failing in the subject – with 6 absences   **Cheating policy:** The participation, the commitment of cheating will lead to applying all following penalties together:   * Failing the subject he/she cheated at * Failing the other subjects taken in the same course * Not allowed to register for the next semester   The summer semester is not considered as a semester  F- Available university services that support achievement in the course:  **Makeup exams:** Makeup exams should not be given unless there is a valid excuse. Arrangements to take an exam at a time different than the one scheduled MUST be made prior to the scheduled exam time**.** |

**26 References:**

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| **Main Reference/s:**   1. Casarett & Doull’s: Essentials of Toxicology, 2nd Ed. 2010 by Curtis Klaassen and John Watkins III (ISBN: 978-0071622400) 2. Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed. 2013 by Curtis D. Klaassen (ISBN: 978-0071769235) 3. Poisoning and Drug Overdose, 6th Ed. 2012 by Kent R. Olson (ISBN: 978-0071668330) 4. Goldfrank's Toxicologic Emergencies, 10th Ed. 2014 by Robert S. Hoffman, Mary Ann Howland, Neal A. Lewin, Lewis S. Nelson, and Lewis R. Goldfrank (ISBN: 978-0-07-180184-3) 5. Clinical toxicology: principles and mechanisms, 2nd Ed. 2010 by Barile, Frank A. (ISBN: 978-1420092257) |

**27 Additional information:**

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| **Course Material and Announcements:** Students need to use the e-learning page at the JU website in order to get all lecture handouts and material which will be uploaded there.In addition, course related announcements and exam results will be posted on the e-learning page and **it is the responsibility of each student to check the site regularly**. Grievance Policy  According to the general policies applied at the University of Jordan for grievance, when there is a complaint or conflict between a student and an academic/staff member or another student, the following procedures must be followed:   1. The student writes a formal complaint describing the situation of conflict to the Dean of the School or the President of the University. 2. Dean or President will first try to resolve the controversy by meeting/listening to both parties. 3. If agreement was not possible, Dean or president forms an investigation committee which will follow, within a specified timeline, the general policies for relevant circumstances. The following points are considered:   a.       The committee will meet/talk to both parties and witnesses (if applicable) within two weeks of conflict.  b.      All meetings and discussions are documented according to the university policies.  c.       Results/ recommendations will be sent to the Dean or President who is responsible for their implementation |

Name of Course Coordinator: ---------Dr. Oriana Awwad-------Signature: ------------- Date: ------------

Head of Curriculum Committee/Department: ---------------------------- Signature: --------------------------

Head of Department: ------------------------------------------------------------ Signature: -----------------------

Head of Curriculum Committee/Faculty: ---------------------------------------- Signature: -------------------

Dean: ---------------------------------------------------------- Signature: -------------------------------------------