



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Toxicology
2	Course number	(1203562)
3	Credit hours (theory, practical)	2 hours theory
	Contact hours (theory, practical)	2 hours
4	Prerequisites/corequisites	Pharmacology II (1203364)
5	Program title	Pharmacy / Pharm D
6	Program code	
7	Awarding institution	University of Jordan
8	Faculty	pharmacy
9	Department	Department of Biopharmaceutics & Clinical Pharmacy
10	Level of course	First semester of the 5 th year
11	Year of study and semester (s)	2015/2016 second semester
12	Final Qualification	PharmD/pharmacist
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	1 September 2015

16. Course Coordinator:

<p>Office numbers, office hours, phone numbers, and email addresses should be listed. Dr Khawla Abu Hammour PhD. http://eacademic.ju.edu.jo/khammour/default.aspx Phone 5 355 000, Ext..23556 E-mail: k.hammour@ju.edu.jo Office hours to be announced Second level- 2nd floor</p>

17. Other instructors:

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18. Course Description:

<p>This 2-credit hours course to cover many aspects of toxicology. The main purpose of this course is to introduce basic background information on important traditional areas in toxicology, as well as in areas that are currently developing. This background information will include principles, definitions, and basic information, and is designed to develop each student's ability to understand toxicology as it applies to both the human health and environmental areas.</p>
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1. 19. Course aims and outcomes:
- 2.

A- Aims:

1. Introduce basic background information on important traditional areas in toxicology, as well as in areas that are currently developing. This background information will include principles, definitions, and basic information
2. develop each student's ability to understand toxicology as it applies to both the human health and environmental areas

B- Course Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

A. Knowledge and understanding:

1. To have current cutting-edge knowledge in human health and environmental toxicology
2. to interpret bio-toxicological data (clinical presentations, diagnostic tests, the differential lab and physical examinations, basic principles in managing poisoned patients)
3. To have a knowledge of techniques for risk assessment in human health
4. To be familiar with different sources of toxicants and their mechanism of toxicity.
5. The student should understand the basic principles of toxicokinetics and toxicodynamics
6. Students should be provided with general principles for the management of poisoned patients
7. Students should be familiar with the treatment algorithm (general and toxicants-specific)
8. Students should be provided knowledge of the commonly encountered toxidromes
9. Students should have knowledge of different types of toxicants (environmental, household/industrial, medicinal and drugs of abuse) and their mechanism of toxicity
10. Students should have knowledge of clinical presentations and the differential lab physical examinations

B. Intellectual skills:

To enable students to identify, detect, analyze, and prioritize the medical problems related to clinical toxicology

Able to about solve common medical problems related to clinical toxicology

Able to evaluate the risks in clinical toxicology management practice and being able to identify toxin-related problems and recommend the appropriate pharmacological and non-pharmacological treatment methods through case discussion

C. Subject-Specific Skills:

To provide students with the skills required to identify, detect, analyze, and prioritize the medical problems related to clinical toxicology

D. Transferable Key Skills:

Upon the completion of this course, the student should be able to

- D.1- Apply key scientific principles underpinning the toxicological sciences
- D.2- Make appropriate therapeutic decisions for individual poisoned patients
- D.3- Recognize different resources of toxicology (books, professional sites and scientific journals) and know how to evaluate the big quantity of information available

Program Competencies Achieved:

- 2.4 Assess symptoms and diagnostic tests and correlate them with associated conditions
- 2.8 Identify side effects and contraindications of medicines
- 2.9 Identify toxicity of medicines
- 2.15 Verify that patient therapy is based on best scientific evidence available
- 2.17 Advise patients and other health professionals on proper usage of medicines including their strength, frequency, dosage form and route of administration
- 2.19 Recommend necessary modifications to patient therapy to optimize its safety and efficacy
- 7.4 Follow new advances in science related to the profession
- 7.5 Utilize information technology tools to enhance working experience

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Toxicology in perspective: – Definition and terminology – Review of relevant toxicokinetic principles – Review of relevant toxicodynamic principles Factors that influence toxicity	1-2	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
General approaches to the management of poisoned patients: – Evaluation of the patient – Initial assessment – Certain toxicokinetics – Pathophysiological mechanisms of toxicants Identification of patient and toxicant	3-4	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
– Decontamination – Inhalation exposure – Ocular exposure – GIT decontamination – Enhancement of elimination Extracorporeal methods	5-6	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
- Toxidromes	6	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
Industrial and household toxicology: - Nitrates and nitrites - Carbon monoxide - Cyanide - Pesticides	7-8	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
Heavy Metals Lead Iron	9	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
Clinical toxicology:	10-11	Dr Khawla Abu	A,B,C and	Exams, Quizes	references

Analgesics Salicylates Paracetamol (Acetaminophen) NSAID		Hammour	D		provided below
Drugs of abuse: Opioids Alcohol intoxication Nicotine	11-13	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
CNS stimulants Sympathomimetics, Dextromethorphan, Methylxanthines (e.g. caffeine) abuse	13	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
Over-the-counter drugs abuse and misuse: Antihistamines Hypervitaminosis	14	Dr Khawla Abu Hammour	A,B,C and D	Exams, Quizes	references provided below
Final Exam	15				

21. Teaching Methods and Assignments:

- Classes include formal lectures in which basic background and principles of specific areas of toxicology will be presented and, applied case studies to illustrate and build on lecture content will be discussed. Assignments and discussions. Poison centre visits, Seminar (external speakers).

ILO/s	Learning Methods	Evaluation Methods
A,B,C	Lectures	Exams, Quizes
D1,2	Assignment	Exams, Quizes
D3	Homeworks	Quizes

22. Evaluation Methods and Course Requirements:

Evaluation	Point %	Date	Material
<i>Midterm Exam</i>	<u>40%</u>	<i>To be announced</i>	<i>To be announced</i>
<i>Quiz</i>	<u>10%</u>	<i>To be announced</i>	<i>To be announced</i>
<i>Final Exam</i>	<u>50%</u>	<i>To be announced</i>	<i>To be announced</i>

23. Course Policies:

- A. Attendance policy
Attendance to the lectures is expected and mandatory.
- Students who are more than 5-10 minutes late for, or who leave early from class 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

B- Absences from exams and handing in assignments on time:

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation, the commitment of cheating will lead to applying all following penalties together

- 1) Failing the subject he/she cheated at
- 2) Failing the other subjects taken in the same course
- 3) Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

Exams and Quizzes.

Mid Exam:	40 points
Quizz:	10 points
Final Exam:	50 points
Total	100 points

F- Available university services that support achievement in the course:

Classrooms, internet classes

Makeup exams: Makeup exams should not be given unless there is a valid excuse: student's hospitalization or death of a first degree family member. Arrangements to take an exam at a time different than the one scheduled MUST be made prior to the scheduled exam time.

24. Required equipment:

Datashow and internet connection

25. References:

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)

26. Additional information:

Name of Course Coordinator: ---- Dr. Khawla Abu-hammour Signature: Khawla----- Date: --1.2.2016-- Head of

curriculum committee/Department: ----- Signature: -----

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

Head of curriculum committee/Faculty: ----- Signature: -----

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

Copy to:

Head of Department
Assistant Dean for Quality Assurance
Course File