



مركز الاعتماد  
وإضمان الجودة  
ACCREDITATION & QUALITY ASSURANCE CENTER



**The University of Jordan**

**Accreditation & Quality Assurance Center**

## **COURSE Syllabus**

### **Course Name**

Toxicology

|    |  |   |
|----|--|---|
| 1  | Course title   | Toxicology                                    |
| 2  | Course number  | 0531701                                       |
| 3  | Credit hours (theory, practical)                     | 3.0   |
|    | Contact hours (theory, practical)                    | 3.0   |
| 4  | Prerequisites/corequisites                           |   |
| 5  | Program title  | Master Of Analytical Toxicology               |
| 6  | Program code   |   |
| 7  | Awarding institution                                 |   |
| 8  | Faculty  | Medicine                                      |
| 9  | Department   | Pathology, Microbiology and Forensic Medicine |
| 10 | Level of course                                      | 1   |
| 11 | Year of study and semester (s)                       | 2016-2017 1 <sup>st</sup> Semester            |
| 12 | Final Qualification                                  |   |
| 13 | Other department (s) involved in teaching the course |   |
| 14 | Language of Instruction                              |   |
| 15 | Date of production/revision                          | Nov.2016                                      |

#### 16. Course Coordinator:

Office numbers: 215  
 office hours: Tuesday 10:0-12:0  
                   Thursdat 10:0-12:0  
 phone numbers: 23489  
 Email: akbattah@ju.edu.jo  
        akbattah@gmail.com

#### 17. Other instructors:

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#### 18. Course Description:

*Toxicology covers the principles of toxicology, such as definitions, area, scope of toxicology, toxicokinetics, toxicant interaction, mechanism of toxicity, factors affecting toxicity, organ toxins, and principle of management of acute poisoning. Also it covers introduction to types of toxicity response and applications of different branches of toxicology such as clinical, forensic, environmental, descriptive and regulatory toxicology*

## 1. 19. Course aims and outcomes:

A- Aims: To introduce the students to the concept of toxicology and its related scope of toxicology with emphasis on the toxic kinetics of different drugs and poison.

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

A. Knowledge and Understanding: Student is expected to:

A1. Know and understand the definitions related to the scope and application of toxicology.

A2. Understand the different Toxicokinetics and Toxicodynamics factors that influence toxic responses

A3. Realize the duties and application of toxicology disciplines

B. Intellectual Analytical and Cognitive Skills: Student is expected to:

B1. Build up knowledge and scientific skills regarding the application of general toxicology principles in the different branches of toxicology.

C. Subject- Specific Skills: Students is expected to:

C1. Acquire knowledge of the fundamental principles of toxicology that are essential to different application of toxicology.

C2. Know the outlines of different types of application and discipline of toxicology

C3. Understand the major mechanisms of toxic responses

D. Transferable Key Skills: Students is expected to be able to:

D1. How to identify and evaluate factors influencing types of toxic response.

D2. Basic principles of management of acute poisoning.

D3. Principles of different applications of toxicology disciplines.

D4. How to research the literature to answer questions regarding toxicology and toxicity.

D5. Evaluate data regarding inter-related scientific principles to understand how and why processes and events with critical evaluation of current literature.

D6. Compose and practice effective written and oral communication regarding issues in this toxicology course.

**20. Topic Outline and Schedule:**

| <b>Topic</b>  | <b>Week</b> | <b>ILO/s</b>                    | <b>Evaluation Methods</b> | <b>Reference</b>             |
|---|-------------|---------------------------------|---------------------------|------------------------------|
| <b>Introduction to Toxicology.</b>                    | 1           | <b>Lecture</b>                  |                           | All references listed below. |
| <b>Introduction to Toxicology.</b>                    | 2           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Animal toxicity testing and risk assessment.</b>   | 3           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Toxicokinetics: Absorption and Distribution.</b>   | 4           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Excretion and Metabolism.</b>                      | 5           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Mechanism of Toxic Responses.</b>                  | 6           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Mutagenicity, Teratogenicity.</b>                  | 7           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Carcinogenicity.</b>                               | 8           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Clinical Toxicology (I).</b>       | 9           | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Clinical Toxicology (II).</b>      | 10          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Forensic Toxicology (I).</b>       | 11          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Forensic Toxicology (II).</b>      | 12          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Environmental Toxicology (I).</b>  | 13          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Environmental Toxicology (II).</b> | 14          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Occupational Toxicology.</b>       | 15          | <b>Presentation, Discussion</b> |                           | All references listed below. |
| <b>Introduction to Regulatory Toxicology.</b>         | 16          | <b>Presentation, Discussion</b> |                           | All references listed below. |

**21. Teaching Methods and Assignments:**

Development of ILOs is promoted through the following teaching and learning methods:

Seminars and Discussions:

Homework and Assignments: Each student is assigned a few topics from the course syllabus in which he/she explores the assigned references, literature and internet where he/she will write an essay in organized scientific style which will be presented and discussed with the other colleagues in a form of seminar.

**22. Evaluation Methods and Course Requirements:**

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

| <b>Evaluation</b>   | <b>Point %</b>                    | <b>Date</b>                          |
|---------------------|-----------------------------------|--------------------------------------|
| <b>Midterm Exam</b> | Theoretical Exam: 30%.            | As given by The University of Jordan |
| <b>Assignments</b>  | Seminar: 10%.<br>Discussion: 10%. | During the semester.                 |
| <b>Homework</b>     | Homework: 10%                     | During the semester.                 |
| <b>Final Exam</b>   | Theoretical Exam: 40%.            | As given by The University of Jordan |

**23. Course Policies:**

A- Attendance policies:

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

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

|        |                      |
|--------|----------------------|
| 00-55  | <b>C</b>             |
| 56-60  | <b>C+</b>            |
| 61-65  | <b>B<sup>-</sup></b> |
| 66-70  | <b>B</b>             |
| 71-75  | <b>B+</b>            |
| 76-80  | <b>A<sup>-</sup></b> |
| 81-100 | <b>A</b>             |

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

**24. Required equipment:**

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**25. References:**

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| <p>A- Required book (s), assigned reading and audio-visuals:</p> <ol style="list-style-type: none"> <li>1. Casarett and Doulls Toxicology, the Basic Science of Poisons, Klaassen CD, Amadur MO and Doull J.</li> <li>2. Principles of Clinical Toxicology, Gossel TA, Bricker JD.</li> <li>3. Medical Toxicology, Diagnosis and Treatment of Human Poisoning, Ellenhorn, Barceloux.</li> </ol> <p>B- Recommended books, materials, and media:</p> <ol style="list-style-type: none"> <li>1. Hand book of Human Toxicology. Massaro ED.</li> <li>2. Clarke's Isolation and Identification of Drugs, Moffat A.</li> <li>3. Goodman and Gilman's, the Pharmacological Basis of Therapeutics, Gilman AG, Goodman LS and Gilman A.</li> <li>4. Internet.</li> </ol> |
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**26. Additional information:**

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| <ul style="list-style-type: none"> <li>• Concerns or complaints should be expressed in the first instance to lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.</li> <li>• For more details on University regulations please visit: <a href="http://www.ju.edu.jo/rules/index.htm">http://www.ju.edu.jo/rules/index.htm</a></li> </ul> |
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Name of Course Coordinator: -----Signature: ----- Date: -----

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