



## Syllabus: Toxicology (#131702456) First Semester 2021 /2022

COURSE INFORMATION	
<b>Course Name:</b> Informatics ( <b>blended education</b> ) <b>Semester:</b> First <b>Department:</b> Clinical Pharmacy & Pharmacy Practice <b>Faculty:</b> Pharmaceutical Sciences	<b>Course Code:</b> 131702456 <b>Section:</b> per semester <b>Core Curriculum:</b> 2013 Study Plan
<b>Day(s) and Time(s):</b> :  <b>Classroom:</b> Pharmaceutical Sciences	<b>Credit Hours:</b> 2 <b>Prerequisites:</b> 131702462
COURSE DESCRIPTION	
<p>introduces the students to the fundamentals of toxicology, at both molecular and clinical aspects. It also introduces the general concepts behind poison treatments. The course starts with introducing the student to toxicological terms such as LD50. Then , it moves to describing animal toxicological studies and dose-response curves with a focus on acute and chronic intoxications. Afterwards, the basic pharmacokinetics of toxicants is describes such as absorption, metabolism, distribution and elimination, with great emphasis on the last aspect as a mechanism of detoxification.</p> <p>part of the course focuses on famous toxicants such as cyanide and carbon monoxide toxicities and their clinical treatment strategies. By the end of the week, every student will present a case study of a drug that caused significant toxicity and how this was managed pharmacologically and clinically.</p>	
DELIVERY METHODS	
<p>The course will be delivered through a combination of active learning strategies. These will include:</p> <ul style="list-style-type: none"> <li>• PowerPoint lectures and active classroom-based discussion</li> <li>• Collaborative learning through small groups acting in an interdisciplinary context.</li> <li>• Relevant films and documentaries</li> <li>• Video lectures</li> <li>• E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team</li> <li>• Workshops , and brain storming .</li> </ul> <p>The course will be delivered through a combination of active learning strategies. These include:</p> <ul style="list-style-type: none"> <li>• PowerPoint lectures and active classroom-based discussion</li> </ul>	

Students will be encouraged to participate and be actively involved in the learning process. Lectures will start with questions to inquire about the students' prior knowledge of the topic. These questions will also be repeated at the end of the lecture to gain insight into the students' competences (to verify whether students have understood the topic). During delivering the lecture presentation, time will be given to allow students to reflect about what they have learnt and think in and discuss some examples of short case studies.

- Relevant speakers
- Video lectures

### FACULTY INFORMATION

<b>Name</b>	<b>Dr Saba Madae'en</b>
<b>Academic Title:</b>	<b>Assistant Professor</b>
<b>Office Location:</b>	<b>Third Floor</b>
<b>Telephone Number:</b>	<b>Extension: 3416</b>
<b>Email Address:</b>	<b>saba@hu.edu.jo</b>
<b>Office Hours:</b>	<b>Per semester</b> <i>Please send an e-mail (saba@hu.edu.jo) to meet at any other time.</i>

### REFERENCES AND LEARNING RESOURCES

## References

1. Casarett & Doull's: Essentials of Toxicology, 3<sup>d</sup> Ed. 2015 by Curtis Klaassen and John Watkins III (ISBN: 9780071622400)
2. Casarett & Doull's: Essentials of Toxicology, 2<sup>d</sup> Ed. 2010 by Curtis Klaassen and John Watkins III (ISBN: 9780071622400)
3. Casarett and Doull's Toxicology: The Basic Science of Poisons, 8<sup>h</sup> Ed. 2013 by Curtis D. Klaasser (ISBN: 978-0071769235)
4. Poisoning and Drug Overdose, 6<sup>h</sup> Ed. 2012 by Kent R. Olson (ISBN: 978-0071668330)
5. Goldfrank's Toxicologic Emergencies, 10<sup>h</sup> 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)
1. Clinical toxicology : principles and mechanisms, 2<sup>d</sup> Ed. 2010 by Barile, Frank A. (ISBN: 9781420092257)

## STUDENT LEARNING OUTCOMES MATRIX

An alignment matrix of the **program** ILOs of the Bachelor of Pharmacy at The Hashemite University, the **course** ILOs and knowledge, skills and competencies as mentioned in the Jordan National Qualifications Framework (JNQF)

Field according to (JNQF)	Required to achieve (according to (JNQF)	Core curriculum learning outcomes	B.Sc. Pharmacy Program ILOs	Course Objectives	Course Student ILOs	Assessment Method
					<b>A,B,C,D.</b>	
<b>Knowledge</b>	A systematic understanding of the theories, concepts, principles and circulations related to the field of learning, some of which are within the limits of the latest scientific findings	Foundational Knowledge	Learner	1-Describe and discuss in class room the effect of metabolism on toxicity  2-Explain the function of the antidotes  3-Discuss the treatment and supportive measures and their alternatives regarding intoxication of acute and chronic cases		Exams and quizzes
<b>Skills</b>	Mastering the skills and tools required to solve complex problems in a specialized field of study	Essentials for Practice and Care  Approach to Practice and Care	Caregiver  Manager  Promoter  Provider  Creative Thinker & Problem-Solver  Educator  Advocate	1-Analyze rational drug administration and dosage form selections.  2-Understand the reasons behind drug efficacy and side effects in correlation with receptor type and function		Exams and quizzes
	Demonstrate specialized and conceptual skills in the			1-Analyze the circumstances that permit or prohibit combining more than one		Exams and quizzes

	field of study		Collaborator Includer Communicator	drug. 2-Analyze how to manipulate drug actions on living systems either by augmenting or diminishing its effect. 3-Understand the significance and the impact of using drugs in improving the quality of life of subjects.		
	Practice evaluation in planning, design, technical and/or supervisory functions related to products, services or processes					
<b>Competencies</b>	Management of activities and projects	Personal & Professional Development Pharmaceutical Product Expert	Self-aware Leader Innovator Professional Manufacturer		<ol style="list-style-type: none"> <li>1. Develop and apply communication skills in class room discussions regarding lecture material or questions</li> <li>2. Participate actively in classroom debate, assignments and speech deliveries</li> <li>3. Conduct library research, personal interviews, and other information-gathering activities to inform speeches.</li> <li>4. Gain control and command over speech anxiety.</li> </ol>	Exams and quizzes Workshops
	Take				<ol style="list-style-type: none"> <li>1. Collaborate with small group team</li> </ol>	Exams and

	responsibility for decision-making in work or study contexts				<p>members to assess and argue for or against certain issue using the appropriate scientific terminology.</p> <ol style="list-style-type: none"> <li>2. Demonstrate leadership skills by mastering effective interpersonal and intercultural tolerance and inclusiveness in communication.</li> <li>3. Establish the basic required knowledge in the field of informatics..</li> </ol>	quizzes workshops
	Take responsibility for group work and work effectively with peer guidance				<ol style="list-style-type: none"> <li>1. Communication skills, covering both written and oral communications.</li> <li>2. Problem-solving skills, relating to qualitative and quantitative information, extending to situations where evaluations have to be made on the basis of limited information and time.</li> <li>3. Study skills needed for continuing professional development.</li> <li>4. Interpersonal skills, relating to the ability to interact with other people and to engage in team-working.</li> <li>5. Time-management and organizational skills, as evidenced by the ability to plan and implement efficient and effective modes of working whether on exams or on homework.</li> </ol>	Exams and quizzes
	Transfer and apply diagnostic and creative skills in a range of contexts				<ol style="list-style-type: none"> <li>1. Apply creative and critical thinking skills in and outside class room</li> </ol>	Exams and quizzes Workshops

					2.	

## ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

### **Special Needs Section:**

**Tel:** 00962-5-3903333 **Extension:** 4209

**Location:** Students Affairs Deanship/ Department of Student Welfare Services

**Email:** [amalomoush@hu.edu.jo](mailto:amalomoush@hu.edu.jo)  
[amalomoush@staff.hu.edu.jo](mailto:amalomoush@staff.hu.edu.jo)

## COURSE REGULATIONS

### ***Participation***

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance.* It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

On average, students need to spend 15 hrs of study and preparation weekly. At the beginning of the lectures, be on time and don't leave before the end of the lecture without an accepted excuse. **If you missed a class, it is your responsibility to find out about any announcements or assignments you have missed.** For any clarification, please communicate your instructor at her posted office hours or by appointment. Listen well to the lecture, if you have a question, ask your instructor. You will find the course material at the course team after the lecture.

**Sharing of course materials is forbidden.** No course material including, but not limited to, course outline, lecture hand-outs, videos, exams, and assignments may be shared online or with anyone outside the class. Any suspected unauthorized sharing of materials, will be reported to the university's Legal Affairs Office. If a student violates this restriction, it could lead to student misconduct procedures.

### ***Plagiarism***

Plagiarism is considered a serious academic offence and can result in your work losing marks or

being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of The Hashemite University.

Plagiarism includes the following examples, and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

**The instructor has the right to fail the coursework or deduct marks where plagiarism is detected**

***Late or Missed Assignments***

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

***Missed Assessments***

In all cases of assessment, students who fails to attend an exam on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a failure .grade for this part of the assessment

- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with university regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

***Cheating***

Cheating, academic misconduct, fabrication and plagiarism will not be tolerated, and the university policy will be applied. 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



### ***Student Complaints Policy***

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

## **COURSE ASSESSMENT**

### ***Course Calendar and Assessment***

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

**Students will be graded through the following means of assessment:**

<b>Assessment</b>	<b>Grade Weighting</b>	<b>Deadline Assessment</b>
First Exam	25%	~ 6 <sup>th</sup> week
Second Exam	25%	~ 10 <sup>th</sup> week
Workshops	10%	12 <sup>th</sup> week
Final Exam	40%	~ 15 <sup>th</sup> /16 <sup>th</sup> week

### **Description of Exams**

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

**Homework:** Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.

You are also expected to work on in-chapter examples, self-tests and representative number of end of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

**Quizzes:** Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce that you come prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

### **Description of Exams**

Test questions will predominately come from material presented in the lectures and the lectures themselves. Semester exams may be conducted during the regularly scheduled lecture period. Exam may consist of a combination of multiple choice, short answer, match, true and false, and/or descriptive questions.

No make-up exams will be given. Only documented absences will be considered as per HU guidelines. Make-up exams may be different from regular exams in content and format.

Grades are not negotiable and are awarded according to the following criteria:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

### WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

***“Lecture hours and weeks are approximate and may change as needed”***

Note: For Chem 101 sections with 2 lecture periods per week (S/T, M/W or T/R), one lecture period covers 1.5 lecture hours (80 minutes). The course content specifies the sections in chapters 1-10 of the textbook that will be included in quizzes, homework and exams.

***“Lecture hours and weeks are approximate and may change as needed”***

Note: For the 2 lecture periods per week (S/T, M/W), one lecture period covers 1 lecture hours (60 minutes). The course content specifies chapters of the textbook that will be included in exams.

<b>Introduction</b>	Introduction	<b>Week 1</b>	<b>1 lecture(face to face)</b>
<b>Topic 1</b>	ADME of toxicants / Enhanced toxicant elimination	<b>Week 1/ 2/</b>	<b>4 lectures(face to face)</b>
<b>Topic 2</b>	Mechanisms of toxicity/ Acute toxicity	<b>Week3/</b>	<b>2 lectures ( one face to face) and the case discussion online teams)</b>
<b>Topic 3</b>	Iron+ case discussion	<b>Week 4</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<b>Topic 4</b>	lead+ case discussion	<b>Week 5</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<b>Topic 5</b>	nitrates+ case discussion	<b>Week 6</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>

<i>Topic 6</i>	pesticides+ case discussion	<b>Week 7</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 7</i>	Opioid+ case discussion	<b>Week 8</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 8</i>	Nicotine+ case discussion	<b>Week 9</b>	<b>2 lectures( one face to face) and the case discussion online us teams)</b>
<i>Topic 9</i>	Alcohol+ case discussion	<b>Week 10</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 10</i>	Carbon monoxide+ case discussion	<b>Week 11</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 11</i>	Cyanide toxicity+ case discussion	<b>Week 12</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 12</i>	Nsaids+ case discussion	<b>Week 13</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<i>Topic 13</i>	paracetamol/ salcalytes+ case discussion	<b>Week 14</b>	<b>2 lectures( one face to face) and the case discussion online teams)</b>
<b>University Final Exams</b>		<b>Week 15</b>	

