

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Study Plan No.	2021/2022	University Specialization	Bachelor of Pharmacy
Course No.	0201553	Course Name	Clinical Toxicology
Credit Hours	3	Prerequisite *Co-requisite	Toxicology
Course Type	<input type="checkbox"/> Mandatory University Requirement	<input type="checkbox"/> University Elective Requirement	<input type="checkbox"/> Faculty Mandatory Requirement
		<input type="checkbox"/> Support course family requirements	<input type="checkbox"/> Mandatory Requirement
			<input checked="" type="checkbox"/> Elective Requirement
Teaching Style	<input type="checkbox"/> Full Online Learning	<input checked="" type="checkbox"/> Blended Learning	<input type="checkbox"/> Traditional Learning
Teaching Model	<input type="checkbox"/> 1 Synchronous: 1 Asynchronous	<input checked="" type="checkbox"/> 1 Face to Face: 1 Asynchronous	<input type="checkbox"/> 2 Traditional

#### Faculty Member and Study Divisions Information (to be filled in each semester by the subject instructor)

Faculty Member and Study Division Information (to be filled in each semester by the subject instructor)					
Name	Academic rank	Office No.	Phone No.	E-mail	
Office Hours (Days/Time)	Sunday, Tuesday, Thursday ()		Monday, Wednesday ()		
Division number	Time	Place	Number of Students	Teaching Style	Approved Model
				Blended Learning	1 Face to Face: 1 Asynchronous

#### Brief Description

This elective course is designed to help the students to acquire the required knowledge and skills in the clinical management of poisoning, including the assessment of poisoning potential, stabilization of vital functions, principles and techniques for decontaminations and poison elimination, and antidotal therapy. This course covers the toxic effects and treatment approaches for selected drug classes, substances of dependence and abuse, food poisoning, and natural toxins (plants, snakes, arthropods).

#### Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	1. Goldfrank's Toxicologic Emergencies, 10th Edition / Editors: Flomenbaum, Neal E.; Goldfrank, Lewis R.; Hoffman, Robert S.; Howland, Mary Ann; Lewin, Neal A.; Nelson, Lewis S. / 2015 McGraw-Hill
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	1. Modern Medical Toxicology, 4th Edition / V V Pillay / published in 2013 by Jaypee Brothers Medical Publishers (P) Ltd 2. Color Atlas of Human Poisoning / James Diaz / Published in 2006 by CRC Press Taylor & Francis Group 3. Selected review articles from the literature.
Supporting Websites	<a href="https://elearning.zuj.edu.jo/login/index.php">https://elearning.zuj.edu.jo/login/index.php</a>
The Physical Environment for Teaching	<input checked="" type="checkbox"/> Classroom
	<input type="checkbox"/> Labs
	<input checked="" type="checkbox"/> Virtual Educational Platform
	<input type="checkbox"/> Others
Necessary Equipment and Software	- PC/laptop with headphones - Microsoft Office.

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	- zoom - Moodle.
Supporting People with Special Needs	
For Technical Support	E-Learning & Open Educational Resources Center. Email: <a href="mailto:elarning@zuj.edu.jo">elarning@zuj.edu.jo</a> ; Phone: +962 6 429 1511 ext. 425/362.

### Course learning outcomes (K= Knowledge, S= Skills, C= Competencies)

No.	Course Learning Outcomes	The Associated Program Learning Output Code
<b>Knowledge</b>		
<b>The student should be able to:</b>		
<b>K1</b>	Recognize the pathophysiology and the clinical manifestations of toxins and toxicants covered in this course	<b>MK3</b>
<b>K2</b>	Discuss the impact of toxicity in special populations (pregnancy, pediatric, and geriatric)	<b>MK3</b>
<b>K3</b>	Recognize the assessment, and therapy considerations associated with the management of a toxic exposure	<b>MK3</b>
<b>K4</b>	Demonstrate the treatment guidelines for specific toxic substances	<b>MK3</b>
<b>Skills</b>		
<b>The student should be able to:</b>		
<b>S1</b>	Interpret bio-toxicological data (signs & symptoms, diagnostic tests, lab analysis, principles in managing poisoned patients)	<b>MS2</b>
<b>S2</b>	Solve common medical problems related to clinical toxicology	<b>MS2</b>
<b>Competencies</b>		
<b>The student should be able to:</b>		
<b>C1</b>	Identify toxin-related problems and recommend the appropriate treatment methods through case discussion	<b>MC1</b>
<b>C2</b>	Develop his/her professional and personal performance by continuously following-up lectures, submitting tasks on time, and staying up to date with the latest toxicants information.	<b>MC3</b>

### Mechanisms for Direct Evaluation of Learning Outcomes

Type of Assessment / Learning Style	Fully Electronic Learning	Blended Learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
<b>Midterm Exam</b>	<b>30%</b>	<b>30%</b>	<b>30%</b>	<b>0%</b>
<b>Participation / Practical Applications</b>	<b>0%</b>	<b>0%</b>	<b>20%</b>	<b>50%</b>
<b>Asynchronous Interactive Activities</b>	<b>20%</b>	<b>20%</b>	<b>0%</b>	<b>0%</b>
<b>Final Exam</b>	<b>50%</b>	<b>50%</b>	<b>50%</b>	<b>50%</b>

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**Note 1:** Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

**Note 2:** According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).

### Schedule of Simultaneous / Face-to-Face Encounters and their Topics

Week	Subject	Learning Style*	Reference **
1	<b>The General Approach to Clinical Toxicology:</b> -Initial evaluation of the patient: -Vital signs and toxic syndromes	lecture	99- 105
2	-Principles of managing the acutely poisoned or overdosed patient -Techniques used to prevent GI absorption	lecture	106-117 202 - 240
3	-Techniques applied to enhance elimination -Withdrawal principles	lecture	269 -285
4	<b>Special Populations:</b> -Reproductive and perinatal principles,	lecture	768 - 828
5	Pediatric principles, and Geriatric principles <b>Drugs overdose:</b> - NSAID	lecture	768 – 828 907 - 955
6	- NSAID - Opioids	lecture	907 – 955
7	- Methylxanthines - Sedative-hypnotics	lecture	1598 – 1614 1748 - 1770
8	- Anticonvulsants - Cardioactive steroids	lecture	1161 – 1285 1572-1576
9	<b>Midterm Exam</b>	-----	-----
10	- Antihistamines and decongestants - Antihistamines and decongestants		1186-1220
11	- Antidiabetics and Hypoglycemics	lecture	1282-1318
12	- Calcium channel blockers - B-adrenergic antagonist	lecture	1498-1538
13	- Anticoagulants	lecture	1441-1495
14	-Thyroid and antithyroid medications	lecture	1355-1368
15	<b>Substances of abuse:</b> -Amphetamines - Cannabinoids	lecture	1794 - 1832
16	<b>Final Exam</b>	-----	-----

\* Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

\*\* Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

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**Schedule of Asynchronous Interactive Activities** (in the case of e-learning and blended learning)

Week	Task / Activity	Reference	Expected Results
1	----	----	----
2	-----	-----	-----
3	Case in management of poisoned patients	107 - 108	Online case
4	Drug overdose during pregnancy & elderly	223 - 226	Online quiz
5	General discussion (Includes lectures for the 1 <sup>st</sup> , 2 <sup>nd</sup> , & 3 <sup>rd</sup> week)		Review
6	-----	-----	-----
7	methylxanthines	1598 - 1614	Online quiz
8	Sedatives & hypnotics	1748-1770	Online quiz
9	<b>Mid-term Exam</b>		
10	<b>Mid-term Exam</b>		
11	Cardioactive steroids	1572-1576	Online quiz
12	Antihistamines	1186-1220	Online quiz
13	Antidiabetics	1282-1318	Online quiz
14	CASE STUDY /Propranolol overdose	1498-1538	oral discussion
15	CASE STUDY (to be announced at the time)	-----	-----
16	<b>Final Exam</b>		<b>Final Exam</b>