Jadara University

جامعة جدارا

ref# FR/P1/P1/1/v1

COURSE DESCRIPTIONS

Faculty	**Pharmacy**				
Department	**Pharmacy**			**NQF level**	7
Course Title	**Physical pharmacy**	**Code**	**901215**	**Prerequisite**	891102
Credit Hours	**3**	**Theory**	3	**Practical**	-
Course Leader	**Professor. Dr. Ahmed Rifaat**	**email**	**Ahmed.ga@jadara.edu.jo**		
Lecturers	**Professor. Dr. Ahmed Rifaat**	**emails**	**Ahmed.ga@jadara.edu.jo**		
Lecture time		**Classroom**			
Semester	first	**Production**	2022	**Updated**	2024
Awards				**Attendance**	Fulltime
Type of Teaching	☐ Online ■ Blended ☐ Face to Face				

Short Description
This course is designed to introduce the students to the pharmaceutical and physical chemical principles behind the design and formulation of different pharmaceutical preparations, and stability. These principles will lay the foundation for dosage form design and manufacture, as well as biopharmaceutics and pharmacokinetics.
Course Objectives
- This course provides the student with good knowledge of some of the physical pharmacy principles, important to help understand various topics of pharmaceutics. It discusses states of matter and phase equilibrium. It also explores the different concepts of solubility and solubilization, surfactants and surface activity as well as rheology.

Learning Outcomes
A. Knowledge - Theoretical Understanding
a1. Describe the basics of physical pharmacy. a2. Mention the concepts of rheology and flowability of fluids and the major surface related physical phenomena.
B. Knowledge - Practical Application
A3. Determine rate process and expiration date and Enumerate factors affecting drug stability.
C. Skills - Generic Problem Solving and Analytical Skills
B1. Determine buffering capacity
D. Skills - Communication, ICT, and Numeracy
B2. Propose reasons for observed liquid surface phenomena and Predict the flow properties of liquids
E. Competence: Autonomy, Responsibility, and Context

C1. use information technology tools .
Teaching and Learning Methods
■ Face to Face Lectures ■ Brain Storming ☐ Synchronous remote ☐ Asynchronous remote ☐ Using Video ■ Discussions ☐ Research Project ☐ Case Study ☐ Field visit ■ Problem solving
Assessment Methods
☐ Formative Assessment ■ Quiz ☐ Lab Exam ■ Homework ☐ Project Assessment ☐ Oral Presentation ■ Midterm ■ Final Exam

Course Contents					
Week	**Hours**	**CLOs**	**Topics**	**Teaching & Learning Methods**	**Assessment Methods**
.1	3	A1,b2	Introduction to physical pharmacy	Lectures, Research projects and information collection. discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams
.2	3	A2, b1	aqueous solutions, types, enhancement of solubility	Lectures, Research projects and information collection.	Assignments , Mid and final exams
.3	3	A3, c1	States of matter	discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams
.4	3	A1, c1	Cont. states of matter	Lectures, Research projects and information collection.	Assignments , Mid and final exams
.5	3	A2, b2, c1	Surface phenomena	discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams
.6	3	A2, b2	Surface tension, spreading	Lectures, Research projects and information collection.	Assignments , Mid and final exams
.7	3	A3,B2, c1	Adsorption, Adsorption isotherms	discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams
.8	3	A2, b2, c1	rheology	Lectures, Research projects and information collection.	Assignments , Mid and final exams
.9	3	A2, b2	viscometers	discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams
.10	3	A3,b2	Reaction kinetics	Lectures, Research projects and information collection.	Assignments , Mid and final exams
.11	3	A2, b2	Cont. reaction kinetics	discussion during lectures and tutorial self-learning (presenting scientific proposal)	Assignments , Mid and final exams

Infrastructure	
Textbook	a) A. Martin. Physical Pharmacy. 6th edition. Lea & Febiger, Philadelphia, London, 2011.
References	a) M.E. Aulton. Pharmaceutics: The science of dosage form design. Churchill Living Stone, 2021. b) Bentley's textbook of pharmaceutics.
Required reading	

Electronic materials	**lectures**
Other	

Course Assessment Plan								
Assessment Method		**Grade**	**CLOs**					
			A1	**A2**	**A3**	**B1**	**B2**	**C1**
First (Midterm)		30	10	5		10		5
Second (if applicable)								
Final Exam		40	5	10	10	5	5	5
Coursework								
Coursework assessment methods	Assignments							
	Case study							
	Discussion and interaction							
	Group work activities							
	Lab tests and assignments							
	Presentations							
	Quizzes	30	5		5		10	10
Total		100	20	15	15	15	15	20

Plagiarism

Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code). Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism.