



ASU  
جامعة العلوم التطبيقية الخاصة  
APPLIED SCIENCE PRIVATE UNIVERSITY

AMMAN - JORDAN



المستوى الذهبي

جامعة كل العرب

**Course Syllabus**  
**Faculty of Arts and Science**  
**Basic Science and Humanities Department**  
**Academic Year 2021/ 2022 Semester: Second**

<b>Course Title :</b>	Physical Chemistry lab2
<b>Course No. :</b>	1722311
<b>Prerequisite :</b>	2722310
<b>Concurrent :</b>	2722310
<b>Department :</b>	Chemistry
<b>Coordinator :</b>	Dr. Dima Khater
<b>Mode of Instruction</b>	<b><u>On Campus</u></b> 3-hour in class

**\* Instructor:**

Lecturer	Office Phone	Room No.	Office Hours	E-mail
Dr. Dima Khater	224	1283	S,M,T,W, Th 11:00-12:00	d_khater@asu.edu.jo

**Course Description**

This course introduces experiments related to electrolytes, conductivity, kinetics, rate of chemical reaction, and adsorption to reinforce the material has been learned from physical chemistry 2. Attendance is expected and students are responsible for being denied from the final exam if the absence exceeds 15% of the lecture sessions.

**Intended Learning Outcomes**

Upon the completion of the course, this module should lead to the following learning outcomes:

**A. Knowledge and Understanding (Student should):**

- A1 understand the general procedures for conducting some experiments related to physical chemistry topics.

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رمز النموذج: UF 28 /2

رقم القرار 24 / 233

تاريخ الاعتماد 2021/10/18





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Course Learning Outcomes Alignment Matrix						
	A1	A2	B1	C1	C2	D1
1.1	√					
1.2		√				
2.3					√	
2.5				√		
3.3			√			
4.3					√	
5.1			√			
5.2						√

Course Contents and Schedule

Week	Day and Date	Topics to be covered	Method of instruction	CLOSE	PLOs
1	Sun.6-3-2022	Introduction	In-class lecture	A1	1.1
2	Sun. 13-3-2022	The density of Solids and Liquids by Pycnometer	In-class lecture	A1 A2 B1	1.1 1.2 3.3 5.1
3	Sun. 20-3-2022	Determination the rate constant (k) of ethyl acetate and sodium hydroxide at different concentration	In-class lecture	A1 A2 C1 B1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1
4	Sun. 27-3-2022	Determination the rate constant (k) and half-life time (t <sub>1/2</sub> ) of the Decomposition of Benzene Diazonium Chloride	In-class lecture	A1 A2 C1 B1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1
5	Sun. 3-4-2022	Determination of equilibrium adsorption of organic acid by activated carbon in aqueous medium	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2



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6	Sun. 10-4-2022	Kinetics of the reduction of methylene blue by ascorbic acid	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2
7	Sun. 17-4-2022	Kinetics of Bromate-Bromide reaction	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2
8.	Sun. 24-4-2022	Electrical conductance of strong and weak electrolytes	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2
9	Sun. 1-5-2022				
10	Sun. 8-5-2021	Viscosity	In-class lecture	A1 A2 B1	1.1 1.2 3.3 5.1
11	Sun.15-5-2022	Crystal Violet Kinetics	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2
12	Sun. 22-5-2022	Surface tension	In-class lecture	A1 A2 B1 C2 D1	1.1 1.2 3.3 4.3 5.1 5.2
13	Sun. 29-5-2022	Determination of critical micelle concentration	In-class lecture	A1 A2 B1 C2 D1	1.1 1.2 3.3 4.3 5.1 5.2



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14	Sun. 5-6-2022	Iodide Persulfate Kinetics	In-class lecture	A1 A2 B1 C1 C2 D1	1.1 1.2 2.5 3.3 4.3 5.1 5.2
15	Sun. 12-6-2022	Practical final EXAM	In-class lecture		
16.	Final Exam				

**Grading Plan and Assessment Tools**

Assessment Tools	Weights	Due date
Mid-term	30	TBA
Assignments	-	
Quizzes	-	
Inter active lectures	-	
Group Work	-	
Presentation	-	
Reports	20	TBA
Project	-	
Case-Study	-	
Final Exam	50	TBA



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## Supplementary Reading

- Textbook:

A. Albawab; F. Odeh; A. Bozeya, Experimental Physical Chemistry I , 2nd ed., 2015, Jordan University Press.

- References:

P. W. Atkins, and J. de Paula, Physical Chemistry, 10th ed., OUP, 2014.

“T. Engel, P. Reid, Physical Chemistry, 3rd ed., Pearson Education, Inc., 2013.

K. J. Laidler, J. H. Meiser, and B. C. Sanctuary, Physical Chemistry, 4th ed., Houghton Mifflin Company, 2003.

I. N Levine, Physical Chemistry, 6th ed., the McGraw-Hill Companies, 2009.

P. Shoemaker, C. W. Garland, and J. W. Nibler, Experiments in .A Physical Chemistry, 8th ed., the McGraw-Hill Companies, 2011

F. Daniels, J. W. Williams, P. Bender, R. A. Alberty, C. D. Cornwell, and J. E. Harriman, Experimental Physical Chemistry, 7th ed., McGraw-Hill, 1970



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## جامعة كل العرب

**Subject Coordinator**

**Dr. Dima Khater**

**Signature: -----**

**Head of Curriculum Committee**

**Dr. Hussam Miqdad**

**Signature: -----**

**Department Head**

**Dr. Hussam Miqdad**

**Signature: -----**

**Faculty Dean**

**Dr. Hadeel Ali Saed**

**Signature: -----**

**Copy to:**

- Department Head.
- Head of Curriculum Committee.
- Course File.

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