Faculty of Sciences Industrial Chemistry Department



كلية العلوم قسم الكيمياء

Course Syllabus

A. COURSE INFORMATION AND TEACHING STAFF								
	Name		MEDICAL CHEMISTRY LAB					
	Code		100311150					
1. Course	Activity		Lab					
r. Course	Credit I	nours	1					
	Semes	ter	Fall 2023/2024					
	Pre-rec	luisite	No Pre-Requisite					
2. Teaching staff, time and location	Section	Building	Room	Day	Time	Instructor	Office hours	
	4	МС	406	М	12:00-13:50	Dr.Rana Sultan Mahmoud Alkerm Rana.Alkerm@aaup.edu	N 10:00 - 11:20 NT 12:30 - 13:50 M 08:30 - 10:50 W 10:00 - 11:50	

Attendance is required; and university regulations in this regard are strictly applied. It	
is important to note the following:	
 The student is expected to follow all announcements issued by the university faculty, department as well as the course instructor through the official chan is the student's full responsibility to get aware of these announcements and react accordingly. 	/, nels. It to
1. Commitment and Attendance2.The student has to communicate electronically with the course instructor, whenever needed, through the official channels exclusively which are limited the AAUP email and Moodle messages only.	l to
3. The student is expected to attend all classes* and to arrive at classroom on	time.
 If the instructor is late for class, the student must wait for at least 10 minutes before leaving the classroom. 	
 Absence by more than 25% of classes leads to an automatic withdrawal from course (the grade W is assigned). 	n the
The student must perform all course assessment activities, i.e. assignments, quizzes, e etc. It is important to note the following:	xams
 Absence from an exam or a quiz other than the final exam leads to a zero m that exam or quiz. An exception allowing a makeup is made for a student submitting a legitimate excuse that is accepted by the instructor in a timely manner. 	ark in
 Absence from the final exam leads to an FA grade that eventually turns to an grade. An exception allowing a makeup exam is made if the student submits official excuse that is accepted by the Academic Affairs in compliance with the university regulations. 	n F an ne

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Course Syllabus The student is expected to be honest during the performance of assessment activities. While not limited to the list below, the following actions are examples of cheating: 1. Copying from other students. 2. Using materials that are not authorized by the proctor during quizzes or exams. 3. Academic Integrity 3. Collaborating with other students during guizzes or exams. 4. Stealing or buying the content of exams, quizzes, and assignments. 5. Stealing ideas and work of others and presenting them as that of the student The university uses the letter grading system. It is important to note the following: 1. The passing grade is D, and the corresponding score (out of 100) is determined at 4. Grading the end of the semester. 2. At the end of the semester, the scale of scores is determined by converting each Sessions involve the presentation of theory, the explanation Lab. meetings of experimental procedures and the execution of scientific experiments. This must be a key responsibility to each student. Students should read the relevant part of the laboratory manual before the meeting. They should be prepared to raise Readings questions and to get engaged in arguments on related topics in the lab schedule. Students are expected to practice the application of the experimental procedures competently, following the Procedure applications instructions in the lab manual and under the supervision of the lab instructor. Students are expected to demonstrate practical skills in a Simulations safe and controlled environment. 5. Learning and teaching Students are given assignments to work on, allowing them methods to apply the knowledge they have gained in addition to Assignments receiving feedback on their performance. The lab instructor provides demonstrations to help students Demonstrations understand complex concepts and procedures. Students are given the opportunity to practice what they Hands-on practice have learned in class through practical exercises, simulations, or real-world applications. Students are asked to teach each other, which can Peer teaching reinforce their own understanding of the subject matter and promote collaboration and communication skills. The lab instructor provides the students with feedbacks on their performance throughout the course, which can help Feedback them to realize their weaknesses and work harder to improve their performance.

C. COURSE DETAILS

AAO-P05-R01	4	2022/1/10

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		Upon the completion of the course, students will be able to achieve the following learning outcomes:						
	CLO1	Recognize the equipment used in the laboratory.						
	CLO2	Carry Out the experiments and follow the instructions in each one.						
2. Course learning outcomes (CLOs)	CLO3	Analyze the collected data by referring to the theoretical materials explained at the beginning of each experiment.						
	CLO4	Explain the observations during the experiments as, colors, odors, and heat.						
	CLO5	Apply and employ the concepts of chemical calculations.						
	CLO6	Discuss the results (Observations, yields and errors) in a lab report.						
		Assessment tool	Weight %	CLOs	Due week			
	CLO2 Carry Out the experiments and follow the instructions in each one. CLO3 Analyze the collected data by referring to the theoretical materials explain beginning of each experiment. CLO4 Explain the observations during the experiments as, colors, odors, and CLO5 Apply and employ the concepts of chemical calculations. CLO6 Discuss the results (Observations, yields and errors) in a lab report. CLO6 Mid. Term 25% 1,2,3,4,5,6 Mid. Term 30% 1,2,3,4,5,6 Image: Closs of the transment of the	7						
		Report	30%	1,2,3,4,5,6				
5. Assessments		Activity	5%	1,2				
	Final Exam		40%	1,2,3,4,5,6	16			
	Total		100%					

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الجامعة العربية الأمريكية

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Course Syllabus

4. CLOs assessment	Outcomes	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	9 CLO 6
	1 - Mid. Term	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	2 - Report	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	3 - Activity	\checkmark	\checkmark				
	4 - Final Exam	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

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Course Syllabus

	Week	Topics	Study material	Assignment	CLOs
	1	Check into Lab, Safety Lecture, Measurements and Significant Figures	Experiment 1		1
	2	Densities of Liquids and Solids	Experiment 2	Report 1	1,2,3,4, 5,6
	3	Empirical Formula of a Compound	Experiment 3	Report 2	1,2,3,4, 5,6
	4	Decomposition of KCIO3 and Unknown	Experiment 4	Report 3	1,2,3,4, 5,6
	5	Chemical Changes and Chemical Reactions	Experiment 5	Report 4	1,2,3,4, 5,6
	6	Volumetric analysis: % of acetic acid in vinegar	Experiment 6	Report 5	1,2,3,4, 5,6
5. Course schedule	7	Mid. Term	Short and essay questions covering first six experiments		
	8	Gases (Graham's law and Gas Stoichiometry)	Experiment 7	Report 6	1,2,3,4, 5,6
	9	Calorimetry (Heats of reactions and heats of solutions)	Experiment 8	Report 7	1,2,3,4, 5,6
	10	Variation of Solubility with temperature	Experiment 9	Report 8	1,2,3,4, 5,6
	11	Fractional Crystallization	Experiment 9	Report 8	1,2,3,4, 5,6
	12	Chemical Kinetics	Experiment 10	Report 9	1,2,3,4, 5,6
	13	Buffer solutions & Salt Hydrolysis	Experiment 11	Report 10	1,2,3,4, 5,6
	14	Revision			6
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Course Syllabus

	Week	Topics	Study material	Assignment	CLOs
5. Course	15	Check out			1
Schedule	16	Final Exam	Short and essay questions (all experiments)		
		D. COURSE MATERIAL			
1. Textbook		Laboratory manual "SELECTED EXPERIMENTS (20022112), Chemistry Department, AAUP, FALL	for Medical Chemist 2020	ry Laboratory"	
2. Reference mater	 1) Weiner, Susan A.; Harrison, Blaine (2010): Introduction to chemical principles. A lapproach. 7th Ed. Belmont CA: Brooks/Cole Cengage Learning (Brooks/Cole labora series for general chemistry).2) Stanton, Bobby; Zhu, Lin; Atwood, Charles H. (2010). Experiments in General Chemistry Featuring MeasureNet. Guided inquiry, self-direct capstone. 2nd Ed. Belmont, CA: Brooks/Cole, Cengage Learning.3) Seager, Spence Slabaugh, Michael R. (2018): Safety-scale laboratory experiments for Chemistry for General, organic, and biochemistry. 9th Ed. Boston: Cengage Learning.4) Williamson (2013): Experiments in general chemistry. Inquiry and skill building. 2nd Ed. Belmont, Cengage.5) Slowinski, Emil J.; Wolsey, Wayne C.; Rossi, Robert C. (2016): Chemic principles in the Jaboratory. 11th Ed. student edition/Australia: Cengage Learning. 				oratory ry d, and L.; day. Vickie CA:
3. Internet resource	es PS	 AAUP Portal: https://portal.aaup.edu/faces/ui/login.xhtmlAAUP Moodle: https://moodle. aaup.edu/login/index.phpAAUP e-mail: https://outlook.office365.com/Zoom download: htt //zoom.us/download#client_4meeting2) Safety in the Lab.: https://www.youtube.com/wator v=gi3DeFY0cfw https://www.youtube.com/watch?v=8J_3PfGw3Bg3) Lab Equipment & Instruments: https://www.thoughtco.com/lab-equipment-and-instruments-40743234) Gene Lab Techniques: https://chem.libretexts.org/Ancillary_Materials/Demos%2C_TechniquesG 2C_and_Experiments/General_Lab_Techniques5) General Chemistry Laboratory Experiments: https://ocw.metu.edu.tr/course/view.php?id=996) How to Write a Chemistry Report: https://www.wikihow.com/Write-a-Chemistry-Lab-Report 			