

Enquiry for Course Details

CHEM4911 Capstone experience for chemistry undergraduates: HKUtopia (6 credits)		Academic Year	2023
Offering Department	Chemistry	Quota	---
Course Co-ordinator	Dr A P L Tong, Chemistry < apltong@hku.hk >		
Teachers Involved	(Various teachers in the Department, Chemistry)		
Course Objectives	This project-based course with the theme of Chemistry for a Better Living in a Foreseeable Future aims to provide students with a capstone experience. It aims to enable students to think what are the key issues the world is facing with that have to be solved by chemistry and related technology. Students will need to apply what they have learnt in classroom and conduct literature search regarding advanced chemistry research and related technology under development to solve the problems identified in their project using various channels.		
Course Contents & Topics	No formal teaching. It is expected that students are actively engaged and should devote 120-140 hours to working on this project. Students will work in groups of two or three, under the supervision of the course coordinator. The duration of the project will be two to three months. The time of running this project-based course is in the summer (May - August).		
Course Learning Outcomes	On successful completion of this course, students should be able to:		
	CLO 1	describe and explain the major issues we are facing with and determine ways in which chemistry can be used to solve the problems using both written and oral formats	
	CLO 2	integrate theory and practice, and to understand limitations of their current knowledge	
	CLO 3	work in a team and to collaborate with people with different background	
	CLO 4	develop further logical, critical thinking and creativity	
	CLO 5	express scientific ideas and present findings of the project in both individual written report and collaborative oral presentation	
	CLO 6	advocate to others the appreciation for chemistry as to its relevance to our daily life	
Pre-requisites (and Co-requisites and Impermissible combinations)	Students are expected to have satisfactorily completed all introductory chemistry disciplinary core courses and at least 24 credits of advanced level disciplinary core/elective chemistry courses in the Chemistry Major. Students who are interested in taking the course should contact the course coordinator for application in April - May. Late application may not be considered. This capstone course is for Chemistry Major students only. The earliest that a student is allowed to take this capstone course is their year 3 study.		
Course Status with Related Major/Minor /Professional Core	2023 Major in Chemistry (Disciplinary Elective) 2023 Minor in Chemistry (Disciplinary Elective) 2022 Major in Chemistry (Disciplinary Elective) 2022 Minor in Chemistry (Disciplinary Elective) 2021 Major in Chemistry (Disciplinary Elective) 2021 Minor in Chemistry (Disciplinary Elective) 2020 Major in Chemistry (Disciplinary Elective) 2020 Minor in Chemistry (Disciplinary Elective) 2019 Major in Chemistry (Disciplinary Elective) 2019 Minor in Chemistry (Disciplinary Elective)		
Course to PLO Mapping	2023 Major in Chemistry < PLO 1,2,3,4,5 > 2022 Major in Chemistry < PLO 1,2,3,4,5 > 2021 Major in Chemistry < PLO 1,2,3,4,5 > 2020 Major in Chemistry < PLO 1,2,3,4,5 > 2019 Major in Chemistry < PLO 1,2,3,4,5 >		
Offer in 2023 - 2024	Y Summer	Examination	No Exam
Offer in 2024 - 2025	Y		
Course Grade	A+ to F		
Grade Descriptors	A	Demonstrate thorough grasp of the subject. Show strong analytical and critical abilities and logical thinking, with evidence of original thought. Insightful use and critical analysis / evaluation of information drawn from a full range of high quality sources and to quote/reference aptly. Critical use of data and results to draw appropriate and insightful conclusions. Show integration of the full range of appropriate theories, principles, evidence and techniques. Apply highly effective organizational and presentational skills. [Work of A+ should show considerable additional work beyond that is required in wider areas relevant to the topic.]	
	B	Demonstrate substantial grasp of the subject. Evidence of analytical and critical abilities and logical thinking. Critical use of relevant information from sources, showing ability to make meaningful comparisons between different secondary interpretations and to quote/reference aptly. Correct use of data of results to draw appropriate conclusions. Show general integration of theories, principles, evidence and techniques. Apply effective organizational and presentational skills.	
	C	Demonstrate general but incomplete grasp of the subject. Evidence of some analytical and critical abilities and logical thinking. Use of relevant information from sources, showing ability to make comparisons between different interpretations and to quote/reference aptly. Mostly correct but some erroneous use of data and results to draw appropriate conclusions. Show some partial integration of theories, principles, evidence and techniques. Apply moderately effective organizational and presentational skills.	
	D	Demonstrate partial but limited grasp, with retention of some relevant information, of the subject. Evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Demonstrate use and reference of several sources, but mainly through summary rather than analysis and comparison. Limited ability to use data and results to draw appropriate conclusions. Show limited integration of theories, principles, evidence and techniques. Apply limited or barely effective organizational and presentational skills.	
	Fail	Demonstrate evidence of little or no grasp of the knowledge and understanding of the subject. Evidence of little or lack of analytical and critical abilities, logical and coherent thinking. Limited use of secondary sources and no critical comparison of them. Misuse of data and results and/or unable to draw appropriate conclusions. Show little or no or inapt integration of theories, principles, evidence and techniques. Organization and presentational skills are minimally effective or ineffective.	

Course Type	Project-based course			
Course Teaching & Learning Activities	Activities	Details		No. of Hours
	Meeting with supervisor	Tutorials		10
	Assessment	Group work or project		80
	Reading / Self study			60
Assessment Methods and Weighting	Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Oral presentation	40% Presentation; Participation; evaluation	10% Peer	60 CLO 1,2,3,4,5,6
	Research report		40	CLO 1,2,4,5,6
Required/recommended reading and online materials	No specific list of textbooks and references. Students are encouraged to obtain information via various channels (main library, e-journals, internet, and discussions with classmates and teachers, etc.).			
Course Website				
Additional Course Information	Enrolment of this course is not conducted via the online course selection system and should be made through the relevant Department/School office after approval has been obtained from the course coordinator.			