

Enquiry for Course Details

CHEM4999 Chemistry project (12 credits)		Academic Year	2023
Offering Department	Chemistry	Quota	---
Course Co-ordinator	Dr J Y Tang, Chemistry < jinyao@hku.hk >		
Teachers Involved	(Various teachers in the Department, Chemistry)		
Course Objectives	To provide experience of research techniques by working on a short project under the direct supervision of a member of staff. This course would prepare students for graduate school work in chemistry.		
Course Contents & Topics	A short research project provided by a member of staff (e.g. the students supervisor).		
Course Learning Outcomes	On successful completion of this course, students should be able to:		
	CLO 1	understand the terminology and nomenclature associated with their own research chemistry project	
	CLO 2	demonstrate knowledge and understanding of the chemical techniques they used to do the research in their own chemical project	
	CLO 3	demonstrate critical thinking skill in their own research project and understanding the motivation and target of the research	
	CLO 4	demonstrate knowledge and understanding of the results of their own chemistry project and its context in the broader research area	
	CLO 5	demonstrate ability to integrate the knowledge acquired from previous courses and develop fundamental knowledge of designing research plan	
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in at least 24 credits of advanced level disciplinary core/elective chemistry courses (CHEM3XXX or CHEM4XXX) in the Chemistry Major including CHEM3241, and CHEM3341, and CHEM3441, and CHEM3541. This capstone course is for Chemistry Major/ Chemistry Major (Intensive) 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 Major in Chemistry (Intensive) (Disciplinary Elective) 2023 Minor in Chemistry (Disciplinary Elective) 2022 Major in Chemistry (Disciplinary Elective) 2022 Major in Chemistry (Intensive) (Disciplinary Elective) 2022 Minor in Chemistry (Disciplinary Elective) 2021 Major in Chemistry (Disciplinary Elective) 2021 Major in Chemistry (Intensive) (Disciplinary Elective) 2021 Minor in Chemistry (Disciplinary Elective) 2020 Major in Chemistry (Disciplinary Elective) 2020 Major in Chemistry (Intensive) (Disciplinary Elective) 2020 Minor in Chemistry (Disciplinary Elective) 2019 Major in Chemistry (Disciplinary Elective) 2019 Major in Chemistry (Intensive) (Disciplinary Elective) 2019 Minor in Chemistry (Disciplinary Elective)		
Course to PLO Mapping	2023 Major in Chemistry < PLO 1,2,3,4,5,6 > 2023 Major in Chemistry (Intensive) < PLO 1,2,3,4,5,6 > 2022 Major in Chemistry < PLO 1,2,3,4,5,6 > 2022 Major in Chemistry (Intensive) < PLO 1,2,3,4,5,6 > 2021 Major in Chemistry < PLO 1,2,3,4,5,6 > 2021 Major in Chemistry (Intensive) < PLO 1,2,3,4,5,6 > 2020 Major in Chemistry < PLO 1,2,3,4,5,6 > 2020 Major in Chemistry (Intensive) < PLO 1,2,3,4,5,6 > 2019 Major in Chemistry < PLO 1,2,3,4,5,6 > 2019 Major in Chemistry (Intensive) < PLO 1,2,3,4,5,6 >		
Offer in 2023 - 2024	Y	Year long	Examination No Exam
Offer in 2024 - 2025	Y		
Course Grade	A+ to F		

Grade Descriptors	A	Show an extensive comprehension of the research project. Demonstrate very able analytical and critical thought with presence of some originality. Illuminating utilization and critical analysis / evaluation of information acquired from a wide range of high quality sources. Critical employment of data and results to synthesize appropriate and illuminating conclusions. Demonstrate integration of a wide range of appropriate theories, principles, data and methods. Employ very effective organizational and presentational skills. [Work of A+ should demonstrate substantial additional work beyond that is required in wider areas relevant to the topic.]		
	B	Show a substantial comprehension of the research project. Demonstrate able analytical and critical thinking with use of relevant information from sources. Demonstrate ability to compose meaningful comparisons between different secondary interpretations. Correct utilization of data and results to form appropriate conclusions. Compose general integration of theories, principles, data and methods. Perform effective organizational and presentational skills.		
	C	Show a general but incomplete comprehension of the research project. Presence of some analytical and critical thinking with use of relevant information from sources. Demonstrate ability to compose comparisons between different interpretations. Mainly correct but some incorrect utilization of data and results to form appropriate conclusions. Demonstrate some partial integration of theories, principles, data and methods. Perform moderately effective organizational and presentational skills.		
	D	Show a partial but limited comprehension, with knowledge of some relevant information, of the research project. Presence of some coherent and logical thinking, but with limited analytical and critical abilities. Show utilization and reference of several sources, but mostly via summary instead of by analysis and comparison. Limited ability to employ data and results to form appropriate conclusions. Demonstrate limited integration of theories, principles, data and methods. Perform limited or marginally effective organizational and presentational skills.		
	Fail	Show little or no comprehension of the research project. Evidence of little or lack of analytical and critical abilities, logical and coherent thinking. Limited employment of secondary sources and no critical comparison of them. Incorrectly utilize data and results and/or unable to form appropriate conclusions. Demonstrate little or no integration of theories, principles, data and methods. Organization and presentational skills are of very limited use or ineffective.		
Course Type	Project-based course			
Course Teaching & Learning Activities	Activities	Details	No. of Hours	
	Reading / Self study	8 hours per week for 24 weeks or longer discussions & meetings	192	
Assessment Methods and Weighting	Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Dissertation	50% Research (experiment and study in a research group); 30% Dissertation (written report)	80	CLO 1,2,3,4,5
	Oral presentation		20	CLO 1,2,3,4,5
Required/recommended reading and online materials	Specialist texts dependant on the selected topic.			
Course Website	NIL			
Additional Course Information	Third year students with exceptional academic achievement may also apply for this course			