Enquiry for Course Details

CHEM3441 Organic chemistry II (6 credits)		Academic Year	2023
Offering Department	Chemistry	Quota	300
Course Co-ordinator	Dr Z X Huang (1st sem); Prof X Y Li (2nd sem), Chemistry < huangzx@hku.hk; xiaoyuli@hku.hk >		
Teachers Involved	(Dr Z X Huang,Chemistry) (Prof X D Li,Chemistry) (Prof X Y Li,Chemistry)		
Course Objectives	As a continuation from CHEM2441 Organic Chemistry I, this course aims to provide a solid foundation of organic chemistry together with CHEM2441. It focuses primarily on the basic principles to understand the structure and reactivity of organic molecules, with examples illustrating the role of organic chemistry in daily life and industry.		
Course Contents & Topics	Chemistry of common organic functional groups: ketones and aldehydes; carboxylic acids and their derivatives; amines; aromatic compounds. Principles of organic synthesis. Detailed considerations of reaction mechanisms. Spectroscopic tools (UV-Vis, IR, NMR, and MS) for characterization and identification of organic compounds.		
Course Learning Outcomes	On successful completion of this course, students should be able to:		

CLO 1	draw correct structural representations of organic molecules
CLO 2	understand the basic principles of structure and reactivity of organic molecules
CLO 3	determine structures of organic compounds based on spectroscopic data
CLO 4	write reasonable mechanisms for transformations of common functional groups (alcohols, ethers, carbonyl compounds, aldehydes, ketones, carboxylic acids, acyl halides, anhydrides, esters, amides, nitriles, and amines)
CLO 5	appreciate the importance of organic chemistry in daily life
CLO 6	devise synthetic pathways to organic compounds using functional group chemistry

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in CHEM2441 [Remarks: CHEM3441 has been changed to lecture-based course from semester 2, 2015-16. For Chemistry students who admitted in 2014-15 or before, they must enroll also CHEM3443 for enrolling CHEM3441 (new version without lab component) to meet the Chemistry Major requirements.]		
Course Status with Related Major/Minor /Professional Core	2023 Major in Biochemistry (Disciplinary Elective) 2023 Major in Chemistry (Core/Compulsory) 2023 Major in Chemistry (Intensive) (Core/Compulsory) 2023 Minor in Chemistry (Disciplinary Elective) 2022 Major in Biochemistry (Disciplinary Elective) 2022 Major in Chemistry (Core/Compulsory) 2022 Major in Chemistry (Intensive) (Core/Compulsory) 2022 Minor in Chemistry (Disciplinary Elective) 2021 Major in Biochemistry (Disciplinary Elective) 2021 Major in Chemistry (Core/Compulsory) 2021 Major in Chemistry (Intensive) (Core/Compulsory) 2021 Minor in Chemistry (Disciplinary Elective) 2020 Major in Biochemistry (Disciplinary Elective) 2020 Major in Chemistry (Core/Compulsory) 2020 Major in Chemistry (Intensive) (Core/Compulsory) 2020 Minor in Chemistry (Disciplinary Elective) 2019 Major in Biochemistry (Disciplinary Elective) 2019 Major in Chemistry (Core/Compulsory) 2019 Major in Chemistry (Intensive) (Core/Compulsory) 2019 Minor in Chemistry (Disciplinary Elective)		
Course to PLO Mapping	2023 Major in Biochemistry < PLO 1,2,3,4,5 > 2023 Major in Chemistry < PLO 1,2,3,4,5 > 2023 Major in Chemistry (Intensive) < PLO 1,2,3,4,5 > 2022 Major in Biochemistry < PLO 1,2,3,4,5 > 2022 Major in Chemistry < PLO 1,2,3,4,5 > 2022 Major in Chemistry (Intensive) < PLO 1,2,3,4,5 > 2021 Major in Biochemistry < PLO 1,2,3,4,5 > 2021 Major in Chemistry < PLO 1,2,3,4,5 > 2021 Major in Chemistry (Intensive) < PLO 1,2,3,4,5 > 2020 Major in Biochemistry < PLO 1,2,3,4,5 > 2020 Major in Chemistry < PLO 1,2,3,4,5 > 2020 Major in Chemistry (Intensive) < PLO 1,2,3,4,5 > 2019 Major in Biochemistry < PLO 1,2,3,4,5 > 2019 Major in Chemistry < PLO 1,2,3,4,5 > 2019 Major in Chemistry (Intensive) < PLO 1,2,3,4,5 >		
Offer in 2023 - 2024	Y 1st sem 2nd sem	Examination	Dec May
Offer in 2024 - 2025	Y		
Course Grade	A+ to F		

Grade Descriptors

A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations.
D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems.
Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems.

Course Type

Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Assignments	(assignment x 2)	20	CLO 1,2,3,4,5,6
Examination		50	CLO 1,2,3,4,5,6
Test	(mid-term test x 2)	30	CLO 1,2,3,4,5,6

Required/recommended reading and online materials

"Organic Chemistry", by Paula Y. Bruice, 2016, 8th Edition, Pearson, with e-text and Mastering Chemistry. Chapters 14-20.

Course Website

NIL

Additional Course Information