

Enquiry for Course Details

CHEM2341 Inorganic chemistry I (6 credits)	Academic Year	2020
Offering Department	Chemistry	Quota
Course Co-ordinator	Prof V W W Yam (1st sem); Dr H Y Au Yeung (2nd sem), Chemistry < wwyam@hku.hk; hoyuay@hku.hk >	
Teachers Involved	(Dr A M Y Yuen, Chemistry) (Prof H Z Sun, Chemistry) (Prof V W W Yam / Dr H Y Au Yeung, Chemistry)	
Course Objectives	To provide students with the basic principles and knowledge of inorganic chemistry and to introduce their relevance to biological processes and materials science. This course provides the foundation for further studies in inorganic chemistry.	
Course Contents & Topics	Acid-base concept; structure and bonding of transition metal complexes and main group compounds; electronic absorption and magnetic properties of metal complexes; chemical reactions of metal complexes: redox and substitution; chemistry of selected main group elements and transition metal complexes and their relevance to biology and materials.	
Course Learning Outcomes	On successful completion of this course, students should be able to:	
	CLO 1	understand the basic principles and concepts of inorganic chemistry and appreciate their relevance to selected examples of biological processes and materials science
	CLO 2	demonstrate knowledge and understanding of the acid-base concept and definition
	CLO 3	demonstrate knowledge and understanding of the structure and bonding of main group compounds and transition metal complexes and their relevance to the electronic absorption and magnetic properties of transition metal complexes
	CLO 4	demonstrate knowledge and understanding of the thermodynamic stability of metal complex formation and the thermodynamic and kinetic aspects of substitution and redox reactions
	CLO 5	demonstrate knowledge and understanding of the role of main group elements and transition metal complexes in bioinorganic chemistry
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in CHEM1042; and NOT for students who have passed in CHEM2041, or already enrolled in this course (for students admitted in 2014-15 or before); Pass in CHEM1042; and Pass in CHEM1043, or already enrolled in this course; and NOT for students who have passed in CHEM2041, or already enrolled in this course (for students admitted in 2015-16 or thereafter)	
Course Status with Related Major/Minor /Professional Core	2020 Major in Chemistry (Core/Compulsory) 2020 Major in Chemistry (Intensive) (Core/Compulsory) 2020 Minor in Chemistry (Disciplinary Elective) 2019 Major in Chemistry (Core/Compulsory) 2019 Major in Chemistry (Intensive) (Core/Compulsory) 2019 Minor in Chemistry (Disciplinary Elective) 2018 Major in Chemistry (Core/Compulsory) 2018 Major in Chemistry (Intensive) (Core/Compulsory) 2018 Minor in Chemistry (Disciplinary Elective) 2017 Major in Chemistry (Core/Compulsory) 2017 Major in Chemistry (Intensive) (Core/Compulsory) 2017 Minor in Chemistry (Disciplinary Elective) 2016 Major in Chemistry (Core/Compulsory) 2016 Major in Chemistry (Intensive) (Core/Compulsory) 2016 Minor in Chemistry (Disciplinary Elective)	
Course to PLO Mapping	2020 Major in Chemistry < PLO 2,3,4 > 2020 Major in Chemistry (Intensive) < PLO 2,3,4 > 2019 Major in Chemistry < PLO 2,3,4 > 2019 Major in Chemistry (Intensive) < PLO 2,3,4 > 2018 Major in Chemistry < PLO 2,3,4 > 2018 Major in Chemistry (Intensive) < PLO 2,3,4 > 2017 Major in Chemistry < PLO 2,3,4 > 2017 Major in Chemistry (Intensive) < PLO 2,3,4 > 2016 Major in Chemistry < PLO 2,3,4 > 2016 Major in Chemistry (Intensive) < PLO 2,3,4 >	
Offer in 2020 - 2021	Y	1st sem 2nd sem Examination Dec May
Offer in 2021 - 2022	Y	
Course Grade	A+ to F	

Grade Descriptors	<table border="1"> <tr> <td data-bbox="617 155 706 365">A</td> <td data-bbox="706 155 1453 365">Demonstrate thorough knowledge and understanding of essential facts, concepts, principles, and theories relating to the basic foundation knowledge of inorganic chemistry, especially those related to acid-base concept; structure and bonding of main group compounds and metal complexes; electronic absorption spectroscopy, magnetic properties as well as thermodynamic and kinetic aspects of metal complexes and their reactions; and their relevance to biological processes and materials science. Show strong ability to apply and integrate knowledge and theory relating to the basic foundation knowledge of inorganic chemistry. Show strong ability to analyze novel problems and critical use of data and experimental results to draw appropriate and insightful conclusions relating to the basic principles and knowledge of inorganic chemistry. 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Required/recommended reading and online materials	<p data-bbox="617 1707 1453 1743">F. A. Cotton ; G. Wilkinson ; P. L. Gaus : Basic Inorganic Chemistry (John Wiley & Sons, 1995, 3rd ed.)</p> <p data-bbox="617 1743 1453 1801">P. Atkins, T. Overton, J. Rourke, M. Weller and F. Armstrong: Shriver & Atkins Inorganic Chemistry (Oxford University Press, 2006, 4th ed.)</p>																				
Course Website	NIL																				
Additional Course Information	Laboratory classes are mandatory. Students must complete ALL experiments and laboratory reports to pass this course.																				

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