

students with fundamental concepts of physical chemistry for their further studies in most branches of advanced chemistry. The course provides students with the concepts of chemical thermodynamics and its applications in phase equilibria and solution electrochemistry.

CHEM 2018-9 Organic Chemistry Laboratory I and II (1,0,3) (E)

Prerequisite: NSS Level (for CHEM 2018) and CHEM 2018 (for CHEM 2019)

Co-requisite: CHEM 2008 Organic Chemistry I (for CHEM 2018) and CHEM 2009 Organic Chemistry II (For CHEM 2019)

To make students familiar with all fundamental purification and separation techniques applicable in organic chemistry. To develop appreciation of the need for practical skill and the importance of performing different types of organic reactions.

CHEM 2025 Physical Chemistry Laboratory I (1,0,3) (E)

Prerequisite: Chemistry major students

This course provides students with practical experimental knowledge/skills related to the principles acquired from CHEM2017 Physical Chemistry I.

CHEM 2026 Chemistry for Life Sciences (3,3,0) (E)

Prerequisite: NSS Level or CHEM 1005 Introduction to Chemistry or with consent of instructor

This course extends the basic knowledge of organic and physical chemistry learned from Hong Kong NSS Level curriculum so as to provide a foundation of this knowledge relevant to life sciences and related courses such as biological chemistry, environmental health and toxicology.

CHEM 2027 Chemistry for Life Sciences Laboratory (1,0,3) (E)

Co-requisite: CHEM 2026 Chemistry for Life Sciences

This course provides basic synthetic and purification techniques that are relevant to students with life sciences background. It also provides clear illustrations of the chemical principles of thermodynamics, kinetics and surface adsorption discussed in the lecture course.

CHEM 2035 Better Living through Technologies (3,3,0) (E) and Innovations

Prerequisite: CHEM 1005 Introduction to Chemistry

Designed as a free elective for science majors, the course aims to demonstrate, through daily life examples, the many important contributions and relevance of chemical sciences and technology to the betterment of humankind.

CHEM 2036 Fundamentals of Organic Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2037 Analytical and Testing Sciences Tutorials I

This course describes functional group and mechanistic approaches in studying the chemistry of organic and biological compounds. Correlation between structures and properties/activities will be discussed. Important organic reactions will be discussed with special emphasis on stereochemistry, reaction mechanisms and the use of modern spectroscopic methods in structural determination.

CHEM 2037 Analytical and Testing Science Tutorials I (0,0,1) (E)

Co-requisite: CHEM 2036 Fundamentals of Organic Chemistry
This course enhances in-depth understanding of the lecture materials presented in the course CHEM 2036 Fundamentals of Organic Chemistry through small group discussion and guided problem solving.

CHEM 2045 Analytical and Testing Science Tutorials II (0,0,1) (E)

Co-requisite: CHEM 2015 Analytical Chemistry and CHEM 2046 Physical and Inorganic Chemistry

This course enhances in-depth understanding of the lecture materials presented in the courses CHEM 2046 Physical and Inorganic Chemistry and CHEM 2015 Analytical Chemistry through small group discussion and guided problem solving.

CHEM 2046 Physical and Inorganic Chemistry (3,3,0) (E)

Prerequisite: CHEM 1005 Introduction to Chemistry

Co-requisite: CHEM 2037 Analytical and Testing Science Tutorials I

To provide students with a solid understanding of the fundamental concepts and physical principles in physical and inorganic chemistry. This course also aims at preparing the students for several advanced level courses.

CHEM 2120 Inorganic Chemistry Laboratory (1,0,3) (E)

Co-requisite: CHEM 2190 Inorganic Chemistry

This course provides students with practical work related to the principles studied in Inorganic Chemistry. Experiments are designed for students to gain practical experiences in Inorganic Chemistry after they have studied the lecture course.

CHEM 2170 Instrumental Analysis (3,3,0) (E)

Prerequisite: CHEM 1230 Analytical Chemistry

Co-requisite: CHEM 2250 Integrated Chemistry Tutorials III
Instrumental techniques like spectroscopy, flame emission and atomic absorption, solvent extraction and chromatography will be studied. This course forms the basis for advanced studies in instrumental analysis, environmental studies and industrial studies.

CHEM 2180 Biochemistry (3,3,0) (E)

Prerequisite: CHEM 1112 Organic Chemistry II

This course gives an introduction to the basic concepts of biochemistry. Topics covered include carbohydrates, lipids, proteins, and nucleic acids. Special attention is given to their structures, properties, catabolisms and biosyntheses. Enzymes will also be discussed.

CHEM 2190 Inorganic Chemistry (3,3,0) (E)

Prerequisite: CHEM 1112 Organic Chemistry II, CHEM 1260 Fundamentals of Chemistry and CHEM 2330 Physical Chemistry II

This course is aimed to provide the students with a solid understanding of all the fundamental concepts and physical principles in modern inorganic chemistry necessary for the study of the more advanced or specialized courses that follow. The topics discussed include coordination chemistry, organometallic chemistry, main group chemistry and their applications in industry and our daily life.

CHEM 2220 Instrumental Analysis Laboratory (1,0,3) (E)

Prerequisite: CHEM 1230 Analytical Chemistry

Co-requisite: CHEM 2170 Instrumental Analysis

Students are required to practise the techniques they have learned in the corresponding lecture course in the laboratory. This course is open to Chemistry majors only.

CHEM 2250 Integrated Chemistry Tutorials III (0,0,1) (E)

An integrated tutorial course supporting the courses CHEM 2170 Instrumental Analysis and CHEM 2330 Physical Chemistry II. Students will engage in small group discussion and find solutions to assigned problems under the guidance of staff members of the Department of Chemistry.

CHEM 2310 Physical Chemistry II (3.5,3,1) (E)

Prerequisite: CHEM 1310 Physical Chemistry I

This course continues to present to students the physical concepts in quantum chemistry, chemical kinetics and symmetry, and is an important prerequisite to spectroscopic techniques in structure determination, applied spectroscopy and materials science.