

be addressed. In particular, the subject will concentrate on the development, measurement, and analysis of “real-world” data involving natural co-variation between variables. On completing this course, students will acquire the data analytic skills—e.g. ANOVA, MANOVA, hierarchical regression analysis, EFA, CFA and SEM—needed to competently complete a quantitatively based DBA thesis.

BUS 7920 Qualitative Approaches to Research (3,*,0)

This course is intended to provide students with the knowledge and skills needed to do qualitative research at a doctoral level. Qualitative research focuses on understanding, rather than predicting or controlling, phenomena. It is usually contrasted with traditional experimental and statistical research. Included in this course will be the discussion and application of five principle qualitative methodologies: case study, ethnography, phenomenology, narrative, and grounded theory. Participants will also learn the associated skills of interviewing and observation. The main objective of the course is for students to learn the practicalities, scope and nature of qualitative research and to appreciate its rigor and procedures.

BUS 7980 Professional Development Workshops (5,*,0)

The Professional Development Workshops provide forums for dialogue among academics, practitioners and students on current issues relevant to today's organizations. International and local academics who are involved in current programs at HKBU and who have expertise in a particular area will be invited to conduct the workshops in conjunction with local business leaders. Topics related to the core areas of change, strategy and corporate governance will be emphasized to ensure that the workshops cohere with the major aims of the course as a whole. Normally, four one-day workshops will be offered every year, and students are expected to attend eight of these as a requirement for graduation. Pre-reading materials may be distributed before each workshop to facilitate discussion and learning activities.

BUS 7991-4 DBA Thesis (24,*,0)

The thesis is the most significant learning experience of the programme. It is a capstone of the course in that students are expected to apply theories learned in the taught subjects to analyse and understand/solve organizational issues/problems. In other words, students are expected to do applied research that has practical implications for organizations. It is not enough to simply make a contribution to theory, although such contributions, in conjunction with practical contributions to the professional practice of management are encouraged. This is in contrast with a PhD thesis, which places more emphasis on the development of new knowledge and theoretical perspectives. Students are expected to research real organizational issues by drawing upon and applying appropriate theories and research. Research methods and analyses should be aligned properly with the research question(s). By going through a systematic process of investigation, students will enhance their competencies in doing research. The thesis will normally be around 50,000 words, and it should be of publishable quality.

CHEM 1010 Ocean Voyage—Science in the Sea (3,3,0)

This course is for students who are curious to learn about the ocean and its science, history and more. Students will be introduced the concepts of marine and environmental science, as well as cultural, economic and political impacts to address marine-environmental issues at local and regional scales.

CHEM 1111-2 Organic Chemistry I & II (3,3,0)

Prerequisite: A-Level Chemistry or Foundation of Chemistry
Co-requisite: CHEM 1251 Integrated Chemistry Tutorials I (for CHEM 1111) and CHEM 1252 Integrated Chemistry Tutorials II (for CHEM 1112)

This course provides a mechanistic approach to the studies of organic reactions with special emphasis on stereochemistry, conformation and the use of modern spectroscopic methods in

structure determination. It also stresses molecular rearrangement, aromatic chemistry, di- and poly-functional compounds, and the design of multi-step synthesis.

CHEM 1121-2 Organic Chemistry Laboratory I & II (1,0,3)

Prerequisite: A-Level Chemistry (for CHEM 1121) and CHEM 1121 Organic Chemistry Laboratory I (for CHEM 1122)

Co-requisite: CHEM 1111-2 Organic Chemistry I & II

This laboratory course is designed to familiarize the students with the application of organic chemistry. The preparation skills of the students are to be developed by performing different types of organic reactions. This course is open to Chemistry majors only.

CHEM 1220 Analytical Chemistry Laboratory (1,0,3)

Co-requisite: CHEM 1230 Analytical Chemistry

This course provides students with practical experience in applying the techniques studied in Analytical Chemistry and Instrumental Analysis to the solution of analytical problems, including those of a practical nature. This course is open to Chemistry majors only.

CHEM 1230 Analytical Chemistry (3,3,0)

Prerequisite: A-Level Chemistry or consent of instructor

Co-requisite: CHEM 1252 Integrated Chemistry Tutorials II

The fundamental principles of classical quantitative chemical analysis, gravimetric and volumetric analysis will be introduced, together with the statistical treatment of analytical data.

CHEM 1251 Integrated Chemistry Tutorials I (0,0,1)

An integrated tutorial course supporting the courses CHEM 1260 Fundamentals of Chemistry and CHEM 1111 Organic Chemistry I. 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 1252 Integrated Chemistry Tutorials II (0,0,1)

An integrated tutorial course supporting the courses CHEM 1112 Organic Chemistry II, CHEM 1230 Analytical Chemistry and CHEM 1330 Physical Chemistry I. 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 1260 Fundamentals of Chemistry (3,3,0)

Prerequisite: A-Level Chemistry or Foundation of Chemistry

Co-requisite: CHEM 1251 Integrated Chemistry Tutorials I

This is intended to be the first chemistry programme course for all Chemistry majors. It is aimed to provide the students with a solid understanding of all the fundamental concepts and physical principles in chemistry necessary for the study of the more advanced or specialized programme course that follow. The topics discussed include atomic and molecular structures, chemical bonding, intermolecular forces and states of matter, and acid-base chemistry.

CHEM 1310 Physical Chemistry I (3.5,3,1)

Prerequisite: A-Level Chemistry

Co-requisite: CHEM 1252 Integrated Chemistry Tutorials II

This course provides students with the fundamental concepts of chemical thermodynamics and its application in electrochemistry solution properties, phase equilibria.

CHEM 1320 Physical Chemistry Laboratory I (1,0,3)

Prerequisite: CHEM 1330 Physical Chemistry I

CHEM 2320 Physical Chemistry Laboratory II (1,0,3)

Prerequisite: CHEM 2330 Physical Chemistry II

These courses provide students with practical work related to the principles studied in Physical Chemistry I & II. This course is open to Chemistry majors only.

CHEM 1510 Chemistry for Life Science (3,3,0)

Prerequisite: A-Level Chemistry or AS-Level Chemistry or consent of instructor

This course gives a detailed treatment of topics selected from Organic and Physical Chemistry. The discussion of

stereochemistry, molecular rearrangements, and chemistry of carbonyl compounds, carbanions and natural products is to be preceded by bonding, thermodynamics, chemical kinetics and surface catalysis. This course is offered to Non-Major Students only.

CHEM 1520 Chemistry for Life Science Laboratory (1,0,3)

Prerequisite: A-Level Chemistry or AS-Level Chemistry or consent of instructor

Co-requisite: CHEM 1510 Chemistry for Life Science

Experiments are selected to illustrate the principles discussed in Chemistry for Life Science.

CHEM 1660 Better Living through Chemistry (3,3,0)

This course is designed for those non-science majors who are interested in the underlying chemistry of the many facets in modern living. Topics to be discussed include the chemistry of foods, cooking and wine-making, the chemistry of drugs, health and beauty products, the chemistry of new materials, the design of miniature machines and molecular devices, the chemical tools in crime scene investigations, the molecular evolution of life, the chemistry of textiles and modern fabrics and archaeological chemistry. Live chemical demonstrations, online resources and case studies will be provided when applicable. About 4 to 5 topics from the above list will be discussed each time.

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

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)

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)

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)

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)

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)

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)

Prerequisite: CHEM 1330 Physical Chemistry I

Co-requisite: CHEM 2250 Integrated Chemistry Tutorials III

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.

CHEM 2510 Chemical Analysis (3,3,0)

Prerequisite: A-Level/AS-Level Chemistry or CHEM 1510 Chemistry for Life Science or equivalent chemistry course

This course emphasizes the presentation of the techniques and instrumentation involved in modern chemical analysis.

CHEM 2520 Chemical Analysis Laboratory (1,0,3)

Co-requisite: CHEM 2510 Chemical Analysis

This course provides students with the practical experience of applying the techniques studied in Chemical Analysis to the solution of analytical problems. This course is open to Applied Biology and Pharmacy in Chinese Medicine majors only.

CHEM 3150 Polymer Chemistry (3,3,0)

Prerequisite: CHEM 1112 Organic Chemistry II and CHEM 2330 Physical Chemistry II, or consent of instructor

This course is designed to introduce topics covering polymerization processes, characterization of polymers and polymer related technology.

CHEM 3160 Chemical Information Search (1,1,0)

Prerequisite: CHEM 1112 Organic Chemistry II, CHEM 1260 Fundamentals of Chemistry, CHEM 2330 Physical Chemistry II and CHEM 2170 Instrumental Analysis

This course is designed to teach all Chemistry majors how to carry out an efficient search for chemical information from a variety of sources, including the primary and secondary chemical literature, the relevant scientific and technological databases and on the Internet. A hands-on workshop teaching approach will be adopted.

CHEM 3170 Environmental Analysis (3,0,3)

Prerequisite: Chemistry Major with Year III standing or CHEM 2510 Chemical Analysis

This course deals with the analysis of atmospheric, terrestrial and aquatic pollutants in the environment. An introduction of environmental quality models and modern monitoring techniques will also be covered.

CHEM 3190 Spectroscopic Techniques for Structure Determination (3,3,0)

Prerequisite: CHEM 1112 Organic Chemistry II and CHEM 2330 Physical Chemistry II, or CHEM 2510 Chemical Analysis

This course covers the basic principles and applications of several major spectroscopic techniques used in the determination of molecular structures. The techniques to be discussed include infrared (IR), Raman, nuclear magnetic resonance (NMR), electron paramagnetic resonance (EPR) spectroscopy and mass spectrometry.

CHEM 3210 Instrumental Analysis in Modern Laboratories (3,3,0)

Prerequisite: CHEM 2170 Instrumental Analysis or CHEM 2510 Chemical Analysis

Basic principles, methodologies, and instrumentation concerning major analytical techniques, such as mass spectrometry, gas and liquid chromatography, electrochemistry, and atomic spectroscopy will be covered. Emphasis will be placed on the application of