



## Short Courses in MSc (Analytical Chemistry) (2022-2023)

To meet with the demand of chemical analysis in a number of important value-added areas, such as environmental analysis, forensic science, biotechnology/bioanalysis, materials and foods, in Hong Kong as well as in the Greater China region, increasingly sophisticated analytical techniques are employed both in quality control and in research and development. Analytical chemists need to constantly upgrade their knowledge to meet this challenge.

Eight courses selected from our popular MSc in Analytical Chemistry programme will be offered to professionals in the field who need to enhance their knowledge and yet are too busy to commit two-year of their time to engage in the complete MSc programme. A certificate will be issued to those who have completed the lecture course(s) and perform satisfactorily in the course assessment.

### COURSES OFFERED

#### Semester One

\*Lecture dates are subject to change

Course	Duration *	Assessment	Contents
<b>CHEM 7240</b> Analytical Spectroscopy (2 units)	24 lecture hours (12 weeks) Start date: 7 Sep 2022 19:00 – 20:50 (Wed)	Continuous assessment and 3 hours examination in Dec 2022	Principles and instrumentation for atomic and molecular spectroscopy and their applications in chemical analysis
<b>CHEM 7420</b> Mass Spectrometric Analysis (1 unit)	12 lecture hours (6 weeks) Start date: 19 Sep 2022 19:00 – 20:50 (Mon)	2 hours examination in Dec 2022	Principles of mass spectrometry and design of mass spectrometers including methods of ionization, tandem mass spectrometry and hyphenated mass spectrometric techniques
<b>CHEM 7500</b> Food Analysis (2 units)	24 lecture hours (12 weeks) Start date: 6 Sep 2022 19:00 – 20:50 (Tue) <b>**No class on 4 Oct 2022</b>	Continuous assessment and 3 hours examination in Dec 2022	Principles and applications of various analytical tools for food analysis, most up-to-date analytical methodology for food monitoring of food quality

#### Semester Two

\*Revised course dates

Course	Duration *	Assessment	Contents
<b>CHEM 7250</b> Laboratory Management (2 units)	24 lecture hours (12 weeks) Start date: 12 Jan 2023 19:00 – 20:50 (Thu) <b>**No class on 26 Jan &amp; 6 Apr 2023</b>	Term paper and presentation at the end of the course	Introduction to Laboratory Management, Quality Assurance, Computer-Assisted Laboratory Information Management System
<b>CHEM 7350</b> Sample Pretreatment Methods (1 unit)	12 lecture hours (6 weeks) Start date: 9 Jan 2023 19:00 – 20:50 (Mon) <b>**No class on 23 Jan 2023</b>	2 hours examination in Apr/May 2023	Principles and applications of traditional and modern sample pretreatment methods, including Soxhlet extraction, microwave extraction, pressurized liquid extraction, supercritical fluid extraction and solid-phase extraction
<b>CHEM 7390</b> Separation Science (3 units)	36 lecture hours (12 weeks) Start date: 11 Jan 2023 19:00 – 21:50 (Wed) <b>**No class on 25 Jan, 5 Apr, 12 Apr 2023</b>	Continuous assessment and 3 hours examination in Apr/May 2023	Basic principles of separation by chromatographic techniques, Gas Chromatography, High Performance Liquid Chromatography, Capillary Electrophoresis
<b>CHEM 7480</b> Food Microbiology for Chemists (1 unit)	12 lecture hours (6 weeks) Start date: 28 Feb 2023 19:00 – 20:50 (Tue)	2 hours examination in Apr/May 2023	Food microbes, microbial toxins, their interactions in food; advanced microbial detection and identification method
<b>CHEM 7490</b> Nanomaterial Analysis (1 unit)	12 lecture hours (6 weeks) Start date: 10 Jan 2023 19:00 – 20:50 (Tue) <b>*No class on 24 Jan 2023</b>	Case study and 2 hours examination in Apr/May 2023	Analytical techniques used in nanomaterial analysis

**APPLICATION DEADLINE****12 August 2022**

[For enrollment of the course(s) in Semester 1 **OR**  
Semesters 1 & 2]

**14 December 2022**

[For enrollment of the course(s) in **Semester 2 ONLY**]

**APPLICATION**

Application form can be obtained by **e-mail to:**  
**analchem@hkbu.edu.hk**

**COURSE FEE**

HK\$4,100 each course (CHEM 7420, CHEM 7350, CHEM 7480,  
CHEM 7490)

HK\$8,200 each course (CHEM 7240, CHEM 7500, CHEM 7250)

HK\$12,300 each course (CHEM 7390)