



# SISP 1102

## Chemistry in the Modern World

### Course Description

This course intends to inspire students to appreciate how chemistry benefits our society. The important fundamental chemistry topics covered include atomic structures, molecules, bonding, acids and bases, antioxidants, and some basic color chemistry.

### Topics

- Atomic Structure, Bohr Atomic Model; Quantum Mechanical Model; Bonding, Molecules & Structure.
- Acids & Bases; Antioxidants & Anti-aging; Color and Pigments.

### Grading Scheme

- Homework 1 (35%)
- Homework 2 (35%)
- Final Assessment (30%)

[Topics and grading schemes are subject to change as deemed appropriate. Students will receive information and guidelines in class on how they will be assessed for the course.]

### Teaching Mode

The course will be delivered face-to-face.

### Attendance Requirement

Attendance is expected and required. The minimum attendance required is 70%. Attendance for the assessment activities [e.g. group presentation and final exam] is mandatory.

### Instructor(s) Profile

#### **Prof. Emily TSANG**

*“Chemistry is about knowing what is happening without actually seeing it.”*

Prof. Tsang obtained both her BSc (in Environmental Science, with Chemistry Concentration) and Ph.D. (in Chemistry) at the Simon Fraser University in Vancouver, Canada. During her graduate studies, she conducted research in the area of polymer electrolyte membranes for fuel cells, and published research articles and book chapters in a number of international academic journals. Prof. Tsang joined the Department of Chemistry at HKUST in 2012. She is now a Lecturer and teaches credit-bearing courses at both undergraduate and graduate levels. These include the introductory General Chemistry courses, the Chemistry Capstone Project courses, as well as the postgraduate-level course in Macromolecular Analysis. She has been jointly teaching SISP 1102 'Chemistry in the Modern World' for the HKUST Summer Institute since 2013 and has received excellent teaching evaluations from students.



#### **Prof. Dennis CHAN**

*“Let students understand how the world works in the perspectives of a chemist.”*

Prof. Chan obtained both his BSc (in Chemistry) and Ph.D. (in Organic Chemistry) at the Chinese University of Hong Kong. He specializes in the organic synthesis of molecules with potential pharmaceutical values, application of organometallic reagents in organic synthesis, the extraction of medicinal phytochemical components, and their chemical structure elucidation. He currently teaches a University Common Core course (in the science and technology area) and supervises final-year undergraduate students in completing their capstone projects. He also oversees practical chemistry courses in the Department of Chemistry in various areas of the chemistry realm – including organic chemistry, inorganic chemistry, biomolecular chemistry, materials chemistry, and pure chemistry. He has been teaching SISP 1102 'Chemistry in the Modern World' for the HKUST Summer Institute since 2011. He has also been teaching courses organized by the Center for the Development of the Gifted and Talented, HKUST since 2011 and is experienced in teaching gifted secondary school students.

