

The Chinese University of Hong Kong
Faculty of Science
Science Academy for Young Talent

Summer Courses 2024
Course Outline

CUSA1111 Chemistry in Food and Health
食物與健康的化學

Introduction: Nowadays, people have increasing awareness of healthy lifestyle. They care about what they eat and whether it is good for health. They would like to develop a balanced diet to enhance health and beauty. This course aims to introduce students to basic concepts with the relationship of nutrition and food to chemistry, as well as to develop students' abilities in presentation skills through group project of case study.

This course emphasizes on the scientific principles in chemistry related to food, diet and health. It provides the introduction of the chemical substances that can be found in food systems (including nutrients), such as protein, lipid, carbohydrate and phytochemicals. Moreover, working principles in food additives that related to chemistry will be further illustrated. In addition, different cooking methods will be introduced. Further applications with selected food in experiments will be performed in laboratory.

Face-to-face teaching in lectures with the aid of interactive discussions in class will be adopted. Experimental sessions in laboratory will also be included. A group presentation of case study will be applied for final assessment in this course.

今時今日，人們對健康生活方式的意識日益增強。他們關心自己吃什麼以及是否對健康有益。他們希望制定均衡飲食以增強健康和保持美麗。本課程旨在向學生介紹營養、食品與化學關係的基本概念，並透過案例研究小組計畫培養學生的表達能力。

本課程強調與食物、飲食和健康相關的化學科學原理。它介紹了食品系統中存在的化學物質（包括營養素），例如蛋白質、脂質、碳水化合物和植物化學物質。此外，本課程也進一步闡述與化學相關的食品添加劑的工作原理，並且會介紹不同的烹調方法。另外將會在實驗室對選定食品進行實驗，作為進一步應用。

本課程採取面對面授課及課堂互動討論的方式進行教學，也包括實驗課。本課程的最終評估將採用案例研究的小組展示。

Medium of Instruction: Cantonese supplemented with English
粵語輔以英語

Organising Unit: Department of Chemistry, Faculty of Science, CUHK

Teachers:



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Course Content:

<p>5 August 2024 (Monday)</p> <p>9:30 am – 12:30 pm 2:00 pm – 5:00 pm</p>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> • Nutrition for human health • Major nutrients and their chemical properties in food <p><u>Case Study:</u></p> <ul style="list-style-type: none"> • Discussion of the major nutrients and their functions in a selected food
<p>7 August 2023 (Wednesday)</p> <p>9:30 am – 12:30 pm 2:00 pm – 5:00 pm</p>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> • Phytochemicals in food <p><u>Case Study:</u></p> <ul style="list-style-type: none"> • Discussion of the major nutrients and their functions in a selected food <p><u>Experiment:</u></p> <ul style="list-style-type: none"> • Anthocyanin in red cabbage – Application in pH indicator
<p>12 August 2024 (Monday)</p> <p>9:30 am – 12:30 pm 2:00 pm – 5:00 pm</p>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> • Food for health and beauty • Food safety and food additives <p><u>Experiment:</u></p> <ul style="list-style-type: none"> • Preparation of sunscreen lotion and test for its effectiveness with UV-test card
<p>14 August 2023 (Wednesday)</p> <p>9:30 am – 12:30 pm 2:00 pm – 5:00 pm</p>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> • Healthy diet and cooking methods <p><u>Case Study:</u></p> <ul style="list-style-type: none"> • Discussion of the major nutrients and their functions in a selected food <p><u>Assessment:</u></p> <ul style="list-style-type: none"> • Group presentation of case study
<p>19 August 2024 (Monday)</p> <p>9:30 am – 12:30 pm 2:00 pm – 5:00 pm</p>	<p>Make-up Class</p>

Date	5, 7, 12, 14, 19* August 2024 (24 hours)				
Time	9:30 am – 12:30 pm & 2:00 pm – 5:00 pm				
Teaching Mode	Face to Face (The Chinese University of Hong Kong)				
Enrollment	30 – 40				
Expected Applicants	Students who are studying S1– S3				
Tuition Fee	HKD 3,740.00				
Credit	1.5 Academy Unit(s) <i>Students can accumulate credits which will be regarded as “Other Learning Experience” when applying University.</i>				
Grading Methods	<i>Certificate</i>	<i>Assessment</i>	<i>Attendance</i>	<i>Credit(s)</i>	
	Distinction	<i>Certificate of Distinction</i>	<i>Excellent</i>	<i>>75%</i>	<i>1.5</i>
	Pass	<i>Certificate of Merit</i>	<i>Pass</i>	<i>>75%</i>	<i>1.5</i>
	Attended	<i>Certificate of Attendance</i>	<i>Fail</i>	<i>>75%</i>	<i>0</i>
	Fail	<i>N/A</i>	<i>Fail</i>	<i>N/A</i>	<i>0</i>

* This date is reserved for make-up classes in case there is any cancellation of classes due to unexpected circumstances.