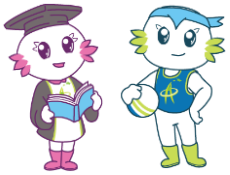
香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education
香港特別行政區政府教育局資助
Subvented by the Education Bureau, the Government of the HKSAR



Learn about Gigi & Yoyo

A3CHE002C
(Token- required)

[ Gifted Programme ]

## Chemistry Course (Level III)

# An inquiry into materials, environment, and food chemistry

Creative Education Unit, The Hong Kong Federation of Youth Groups

**Application Deadline**
**10 Dec 2025 12:00 noon**

**Result Release**
**15 Dec 2025**

## Intended Learning Outcomes

Upon completion of the gifted programme, gifted students should be able to:

1. identify and describe key concepts in material, environmental and food chemistry;
2. conduct chemical analysis on real-life samples;
3. research and discuss the applications of chemistry across different domains;
4. cultivate awareness of social issues and reflect on how science can contribute to human welfare.

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

# Gifted Programme Introduction

This programme consists of three distinct parts, culminating in a final presentation on selected topics. Students will engage in a blend of lectures, hands-on activities, and experiments in all parts.

**Part 1 – Material Science:** it offer a comprehensive exploration of the properties, applications, and innovations in materials, aiming to deepen students' understanding of both traditional and advanced materials.

**Part 2 – Environmental Chemistry:** it provide an in-depth examination of the chemical processes and reactions that impact our environment. This part will focus on the biogeochemical cycles of water, carbon, and nitrogen, as well as the fate and transport of pollutants in various environmental media. Learning activities are designed to enhance their students' understanding of key concepts such as kinetics, and chemical equilibrium in environmental contexts.

**Part 3 – Chemistry in Food Industry:** it provide a detailed study of the chemical principles underlying food composition, processing, and preservation. Students will engage with analytical chemistry techniques essential for characterizing food ingredients, assessing quality, and understanding the biochemical reactions that occur during food preparation and storage.

**Final Presentation: Innovative Material Addressing Challenges in the Food Industry and Environmental Sustainability.** Students will collaborate in team to conduct a literature review and research on a specific innovative material capable of addressing global challenges. They will also perform case studies and explore strategies for the future adoption of the selected material.

# Schedule

**Part 1 – Material Science**

| # | Date | Time | Activity | Venue |
|---|---|---|---|---|
| 1 | 24 Jan 2026 | 10:00 a.m. – 12:00 noon | Lecture / Experiment | Creative Education Unit, The Hong Kong Federation of Youth Groups, **Unit 2201A, 22/F, Skyline Tower**, 39 Wang Kwong Road, Kowloon Bay, Kowloon |
| 2 | 24 Jan | 1:00 p.m. – 3:00 p.m. | Lecture / Experiment | |
| 3 | 31 Jan | 10:00 a.m. – 12:00 noon | Lecture / Experiment | |
| 4 | 31 Jan | 1:00 p.m. – 3:00 p.m. | Lecture / Experiment | |
| 5 | 7 Feb | 10:00 a.m. – 12:00 noon | Lecture / Experiment | |
| 6 | 7 Feb | 1:00 p.m. – 4:00 p.m. | Lecture / Experiment & **Project Discussion** | |

**Part 2 – Environmental Chemistry**

| # | Date | Time | Activity | Venue |
|---|---|---|---|---|
| 7 | 14 Feb | 10:00 a.m. – 1:00 p.m. | Lecture / Experiments | **Unit 2201A, 22/F, Skyline Tower**, 39 Wang Kwong Road, Kowloon Bay, Kowloon |
| 8 | 14 Feb | 2:00 p.m. – 5:00 p.m. | Lecture / Experiments | |
| 9 | 28 Feb | 10:00 a.m. – 1:00 p.m. | Lecture / Experiments | |
| 10 | 14 Mar | 10:00 a.m. – 1:00 p.m. | **Project Discussion & Consultation** | |

Part 3 Schedule Continued Next Page

**Enquiries** 3940 0101 programme@hkage.org.hk

| Part 3 – Chemistry in Food Industry | | | | |
|---|---|---|---|---|
| # | Date | Time | Activity | Venue |
| 11 | 21 Mar | 10:00 a.m. – 1:00 p.m. | Lecture / Experiments | **Unit 2201A, 22/F, Skyline Tower**, 39 Wang Kwong Road, Kowloon Bay, Kowloon |
| 12 | 21 Mar | 2:00 p.m. – 5:00 p.m. | Lecture / Experiments & **Project Discussion** | |
| 13 | 28 Mar | 10:00 a.m. – 1:00 p.m. | Lecture / Experiments | |
| 14 | 28 Mar | 2:00 p.m. – 5:00 p.m. | Lecture / Experiments & **Project Discussion** | |

| Final Project Preparation & Presentation | | | | |
|---|---|---|---|---|
| # | Date | Time | Activity | Venue |
| 15 | 16 May | 10:00 a.m. – 1:00 p.m. | **Project Discussion & Consultation** | **Unit 2201A, 22/F, Skyline Tower**, 39 Wang Kwong Road, Kowloon Bay, Kowloon |
| 16 | 23 May | 10:00 a.m. – 1:00 p.m. | Final Project Presentation | |

## Suitable for

- S1 to S6 HKAGE student members in 2025/26 school year
- Class size: 24

Priority will be given to S4 – S6 students who study chemistry in school

## Pre-requisite

Students should possess basic knowledge of chemistry.

## Medium of Instruction

Cantonese with English Handouts

## Screening

Please answer the screening question in the online application form.

*The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and the knowledge of chemistry in the screening question can be enrolled in the programme

## Certificate

E-Certificate will be awarded to gifted students who have:

- attended at least 12 sessions; and
- completed all the assignments with satisfactory performance

**Enquiries** 3940 0101 programme@hkage.org.hk