



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



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E2ENV002C

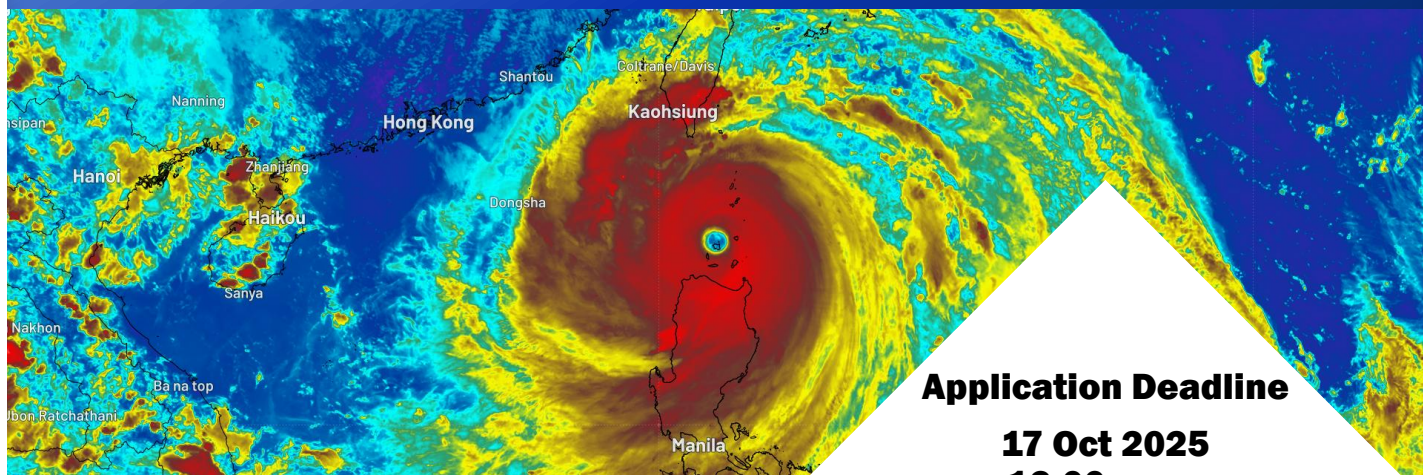
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[**Gifted Programme**]

Environmental Science Course (Level II)

Typhoon — DIY Numerical Simulation

Instructors from ClusterTech Limited



Application Deadline

**17 Oct 2025
12:00 noon**

Intended Learning Outcomes

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

1. explain the factors that influence the development and track of tropical cyclones;
2. conduct numerical weather simulations on a supercomputer and use Python Jupyter Notebook for programming tasks to analyze weather data;
3. analyze data, troubleshoot simulations, and understand weather prediction challenges;
4. further study opportunities and career paths in the climate profession.

Result Release

17 Oct 2025

◆ Gifted Programme Introduction

This course aims to introduce how to predict typhoons using "numerical weather prediction". It provides a small amount of high-performance computing resources ("supercomputers") and software for students to simulate a typhoon. Topics include:

- What drives weather – solar radiation
- What are low-pressure systems and high-pressure anticyclones
- Conditions for typhoon formation
- How to visualize initial weather data
- How to use remote high-performance computing services to execute a numerical weather prediction model
- Create an animation of a typhoon using simulation data

◆ Schedule

Session	Date	Time	Venue
1	1 November 2025 (Saturday)	9:30 a.m. – 12:30 p.m.	Room 303, HKAGE
2	8 November 2025 (Saturday)		
3	15 November 2025 (Saturday)		
4	22 November 2025 (Saturday)		
5	29 November 2025 (Saturday)		
6	6 December 2025 (Saturday)		

◆ Suitable for

- S3 – S6 HKAGE student members in the 2025/26 school year.
- Class size: 30
- Student members would be selected randomly by the computer system. The decision of HKAGE on the result of the selection should be final.

◆ Pre-requisite

No special prerequisites are needed

◆ Medium of Instruction

Cantonese with Chinese/ English handouts

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended at least 5 sessions; AND
- completed all the assignments with satisfactory performance