



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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E1STM008C

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[ **Gifted Programme** ]

**STEAM Course (Level I)**

# Energy is Omnipresent

Prof. Marshal Liu



**Application Deadline**  
**3 Nov 2025 12:00 noon**

**Result Release**  
**14 Nov 2025**

## **Intended Learning Outcomes**

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

1. describe the indispensability and current status of energy utilization in the world;
2. explain energy generation, transfer, storage, and efficiency;
3. evaluate various renewable energy for the pros and cons, especially in HK ;
4. develop an awareness of the necessity of energy conservation and the development of renewable energy for sustainability.

## ◆ Gifted Programme Introduction

Energy is omnipresent. Human beings are using more and more energy, mainly from fossil fuel. However, fossil fuel is not sustainable, which may run out in this century. Meanwhile, wide use of fossil fuels generates tremendous environmental pollutants and global warming gases. This course will introduce the fundamentals on energy generation, conversion, utilization, transfer and storage, and discuss the incurred environmental problems. Renewable energy provides a promising yet challenging solution for future energy utilization in order to achieve carbon neutrality. Students will also have an opportunity to conduct experiments (making battery and solar car) in the labs of university to obtain first-hand information.

## ◆ Schedule

Session	Date	Time	Venue
1	6 Dec	9:30 a.m. – 12:30 p.m.	Academic building , HKUST
2	13 Dec	9:30 a.m. – 12:30 p.m.	
3		2:00 p.m. – 5:00 p.m.	
4	20 Dec	9:30 a.m. – 12:30 noon	
5		2:00 p.m. – 5:00 p.m.	

## ◆ Suitable for

- P4 – P6 HKAGE student members in 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

Putonghua with Chinese handouts

## ◆ Certificate

E-Certificate will be awarded to participantss who have:

- attended 4 sessions; AND
- completed all the assignments with satisfactory performance