

[Gifted Programme]

E3INO004C, E3INO004C-2

(Token- required)

Innovation Course (Level III):

Applying Artificial Intelligence to Make Smart Living Products (Phase I)

Mr Chris LEUNG (Decatron Innovation Limited)



Intended Learning Outcomes

Result Release 12 Dec 2025

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

- 1. apply design thinking principles and use mind mapping to explore end users' needs;
- 2. gain practical experience in CAD drawing, 3D printing, and laser cutting for product design;
- 3. build devices with microcontrollers and IoT sensors, focusing on hardware and software integration;
- 4. set up a Python environment for developing advanced AI technologies such as facial expression recognition, posture, gesture, balance, and speed detection;
- 5. apply creative problem-solving skills.

Gifted Programme Introduction

This programme series integrates Artificial Intelligence (AI) and Internet of Things (IoT) concepts to develop innovative smart living solutions. Students gain hands-on experience in computer-aided design (CAD) drawing, 3D printing, laser cutting, circuit design, and Python programming. Core topics include facial expression recognition, posture and gesture detection, body balance analysis, and smart motion sensing. The curriculum also addresses ethical issues in Al and promotes responsible design. Through collaborative design thinking and group projects, students conceptualise and prototype intelligent products that enhance daily living through technology-driven innovation.

Schedule

Admitted students only need to attend either Class A or Class B below.

Class A (E3INO004C)

Session	Date	Time	Venue
A1	3 Jan	9:30 a.m. – 12:30 p.m.	Decatron Innovation Limited
A2	17 Jan		
A3	24 Jan		
A4	31 Jan		

Class B (E3IN0004C-2)

Session	Date	Time	Venue
B1	14 Feb	9:30 a.m. – 12:30 p.m.	Decatron Innovation Limited
B2	21 Feb		
В3	28 Feb		
B4	7 Mar		

Address: Decatron Innovation Limited, Unit 03, 19/F, Yen Sheng Centre, 64 Hoi Yuen Road, Kwun Tong, Kowloon

Remarks:

- 1. Interested student please apply at either Class A (E3INO004C) or Class B (E3INO004C-2) only. If you are also available for the other class, please indicate it in the last screening question (which may slightly increase your chance of getting an offer). We shall assign you to attend either Class A or Class B according to your availability, provided that you pass the screening.
- 2. The 25 best-performing students in Phase I will be promoted to join Phase II. Grades and selection results will be announced after both Class A and Class B have completed, tentatively around 17 - 26 Mar 2026.
- 3. Tentative schedule for Phase II is 6 sessions on: 11, 18, 25 Apr, 2, 9 & 16 May, 2026; at 9:30 a.m. -12:30 p.m.

Suitable for

- S1 to S6 HKAGE student members in 2025/26 school year
- Class size: 25 for Class A, 25 for Class B, totally 50.

Pre-requisite

No special prerequisites are needed

Medium of Instruction

Cantonese with English Handouts

Certificate

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

- attended at least 3 sessions; and
- completed all the assignments with satisfactory performance.

Screening

Please answer the screening questions in the online application form.

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

Sample Notes

Testing

Investigation

Mathematics

• Data Collection and

The 5-Step Process of Design Thinking

Empathize

- Select Specific Demographic groups
- Carry out 1st hand and 2nd hand research
- "Be in someone else's shoes"

Define

- Define Problem
- Set SMART Goals

Prototyping

• Applications of Scientific

Processing (Statistics and

- Application of Technology and Engineering
- 3D / 2D CAD CAM
- Coding and Programming

Ideate

- Brainstorming
- 5W1Hs
- Design Sketching

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Cause and Effect Diagram

