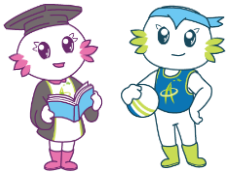
香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education
香港特別行政區政府教育局資助
Subvented by the Education Bureau, the Government of the HKSAR



Learn about Gigi & Yoyo

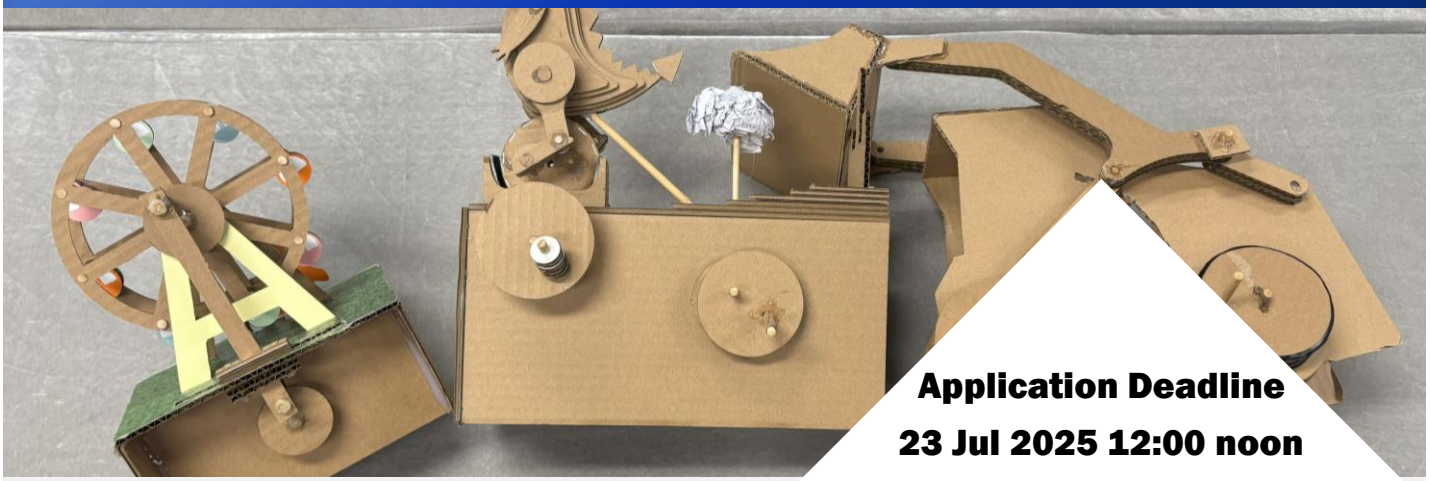
C2ROB002C
(Token- required)

[**Gifted Programme**]

Robotics Course (Level II)

Motorized Automata Design

Dr Darwin Lau
Associate Professor
Department of Mechanical and Automation Engineering
The Chinese University of Hong Kong



Application Deadline
23 Jul 2025 12:00 noon

Result Release
23 Jul 2025

Intended Learning Outcomes

Upon completion of the programme, participants should be able to:

1. explain the fundamentals of mechanical design and the various mechanisms used in automata;
2. apply basic coding skills to effectively control motors;
3. create a product with industry software;
4. foster creativity and innovative thinking through the design process;
5. develop presentation skills by showcasing a completed projects.

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

Introduction

This course introduces students to the fundamentals of mechanical design. They will explore key engineering mechanisms—such as cams, gears, and bar linkage—to understand how motion is controlled in real-world mechanical systems. Through a hands-on project, students will design automata using the mechanisms they have learned. They will also gain experience in 3D drawing with CAD software, followed by 3D printing for fabrication. The course covers motor mechanisms, wiring, and coding, enabling students to integrate electrical components into their automata. By the end of the course, students will showcase their creations and receive feedback from peers and instructors.

This course is under collaboration of HKAGE and the Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong.

Schedule

Session	Date	Time	Venue
1	6 Aug	10:30 a.m. – 12:30 p.m.	Room 218, 2/F, William M.W. Mong Engineering Building, CUHK
2	6 Aug	2:00 p.m. – 5:00 p.m.	
3	7 Aug	10:30 a.m. – 12:30 p.m.	
4	7 Aug	2:00 p.m. – 5:00 p.m.	
5	12 Aug	10:30 a.m. – 12:30 p.m.	
6	12 Aug	2:00 p.m. – 5:00 p.m.	
7	14 Aug	10:30 a.m. – 12:30 p.m.	
8	14 Aug	2:00 p.m. – 5:00 p.m.	

Suitable for

- S3 – S6 HKAGE student members in 2024/25 school year.
- Class size: 20
- 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

English with English handouts

Certificate

E-Certificate will be awarded to participants who have:

- attended at least 6 sessions; AND
- completed all the assignments with satisfactory performance

Enquiries 3940 0101 programme@hkage.org.hk