



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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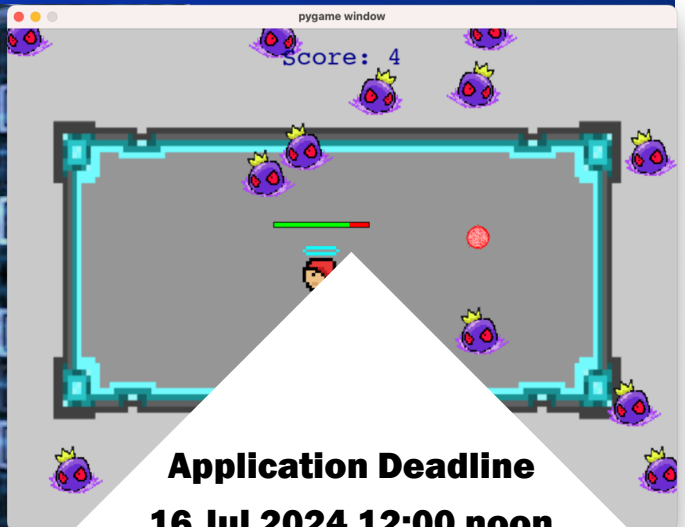
[ **Gifted Programme** ]

**Coding Course (Level III):**

# Python Programming for Gaming and AI Applications

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**Application Deadline**  
**16 Jul 2024 12:00 noon**

**Result Release**  
**17 Jul 2024**

## **Intended Learning Outcomes**

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

1. explain the basics of Python and object-oriented programming;
2. apply logistical thinking and creativity in game design;
3. create a game programme with a graphical user interface using Python;
4. understand the technique of reinforcement learning to create an intelligent computer player.

## ◆ Gifted Programme Introduction

Python is the top programming language in TIOBE and PYPL Index. It is widely used in data science and machine learning applications. In this course, we aim at teaching the essentials of Python programming language and applying the language in basic gaming applications. We will also cover how to develop intelligent agents which act as computer players based on the concept of reinforcement learning. This course will start from the fundamentals and is suitable for students who do not have any programming background. By the end of the course, students should be able to make a simple computer game based on the PyGame framework.

This programme is under the collaboration with Department of Computer Science and Engineering, The Chinese University of Hong Kong.

## ◆ Schedule

Session	Date	Time	Venue
1	30 Jul	9:30 a.m. – 12:30 p.m.	Room 129, 1/F, Ho Sin Hang Engineering Building, The Chinese University of Hong Kong ( <a href="#">MAP</a> )
2	31 Jul		
3	1 Aug		
4	5 Aug		
5	6 Aug		
6	9 Aug		

## ◆ Suitable for

- S3 – S6 HKAGE student members in 2023/24 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

English with English Handouts

## ◆ Certificate

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

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