

Course Description

AI and Coding is a 12-week hands-on course designed for students aged 9–14 to explore how artificial intelligence can assist in writing code and creating simple web-based games. Students will learn the basics of Python, HTML, JavaScript, and web development, using AI tools like ChatGPT to generate, edit, and understand codes. Through small projects, students will gradually build their skills and confidence. By the end of the course, each student will complete and present a playable web-based game, with the option to publish it online for others to enjoy.

课程简介

人工智能与编程是一门为9至14岁学生设计的课程，旨在引导学生探索如何利用现有的人工智能技术来辅助编写代码，并开发简单的网页游戏。学生将学习 Python、HTML、JavaScript 以及网页开发的基础知识，并结合如 ChatGPT 等 AI 工具，帮助生成、修改并理解代码。通过一系列小项目，学生将逐步掌握编程技能。课程结束时，每位学生将完成一个可游玩的网页游戏，并有机会将其发布到网上，让更多人体验他们的成果。

Tentative Schedule: AI and Coding

Week 1. Introduction: What is AI? What is Code?

Understand how AI can help write and explain code; write your first line of HTML and JavaScript using AI.

Activities: Students prompt AI to create a “Hello World” page with a button.

Week 2. Inputs and Interactions: Talking to the Computer

Learn how to handle user inputs like keyboard or mouse events in JavaScript.

Activities: Use AI to build a webpage that responds to clicks or keystrokes.

Week 3. Graphics: Let's Make It Visual

Learn how to display images, colors, and text with HTML and CSS.

Mini Project 1: Interactive art or image viewer page.

Week 4. Game Logic: Let the Game Begin

Create a player character, add movement, and understand basic game mechanics.

Activities: Use arrow keys to move a box or character on the screen.

Week 5. Game Mechanics: AI Builds the Engine

Use AI to help implement scoring systems, health points, and win/lose conditions.

Activities: Students edit and test rule-based logic with AI guidance.

Week 6: Mini Game Showcase

Combine visuals and logic to build a basic game demo.

Mini Project 2: Demo of a simple working game (e.g., maze, clicker, or runner).

Week 7. Sound: Hear the Game

Learn to add sound effects and background music to games.

Activities: Use AI to integrate audio in response to events like scoring or collisions.

Week 8. Variables: Level Up!

Add new levels, increasing difficulty, or changing speed in a game.

Mini Project 3: A two-level game or one with increasing challenge.

Week 9. Graphics: Make It Beautiful

Improve UI design, layout, and add menus or instructions.

Activities: Create splash screens and instructions using Canva or AI art tools.

Week 10: Test and Fix

Learn how to test and debug using AI and peer feedback.

Activities: Students test each other's games and provide suggestions.

Week 11: Final Game Assembly

Finish and package the full game.

Activities: Organize all files, polish gameplay, and prepare for upload.

Week 12: Game On the Web!

Present and publish (optionally) the game online.

Activities: Showcase final projects and zip files for upload to itch.io or CrazyGames.

Final Project: A complete playable game made with AI-assisted code.