ROBO-GEEK AI Courses

LEVEL 1: Coding with Python

RG-120: Introduction to Python (9 Hours)

This course is for first time coders without experience coding with Python.. The course covers the fundamentals of coding while building confidence in students' abilities to troubleshoot and work with more complex code.

Prerequisites:
- **None**

RG-200: Intermediate Python (9 Hours)

This course is for students who have completed RG-120 and are ready to modify and troubleshoot complex Python programs that use lists, strings, loops, and conditional commands. The course covers advanced topics such as binding events with keys, recursion, nested loops, and drawing with polygons.

Prerequisites:
Successful completion of RG-120

RG-250: Advanced Python (9 Hours)

This course teaches students how to develop a 2D game from scratch. They will design characters, create game rules, and build multiple game levels. Students will use Python Pygame to code with Object Oriented Programming and learn about classes.

Pre-requisite: RG-200

ROBO-GEEK AI COURSES

RG-700: Advanced Coding: JAVA BASIC

Students will learn fundamentals of Java, type of variables, statements and operators, arrays, methods, and control structures.
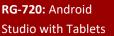
Pre-requisite: NONE

RG-710: Advanced JAVA

This course will expand Object-oriented programming System (OOPs) concepts. We will cover each and every feature of OOPs in detail : Abstraction, Encapsulation, Inheritance and Polymorphisms. The section for Input /Output has included here too.

Pre-requisite: RG-700

RG-720: Android Studio with Tablets

This course teaches students how to use Android Studio to manage their Java code. Students will learn about the API (Application Programming Interfaces), project structure, Gradle, libraries, and methods. They will also learn how to write Java code with MainActivity and XML Layout modules. Finally, students will learn how to create apps for Android tablets using Android Studio.

Pre-requisite: RG-710

RG-750: Intro to C++

This course focuses on building practical skills on C++ in preparation for the advanced Robotics courses. From the basics to Object Oriented Programming (OOP) students will learn hands on how to work with C++ standard libraries.

Pre-requisite: NONE

RG-780: Intermediate C++

In this course, students will build practical skills in C++ in preparation for advanced Robotics courses and Game Programming with Epic Games. The course will cover Vectors, Structs, Classes, Pointers, and References using C++ standard libraries.

Pre-requisite: RG-750

RG-800: Advanced C++

This course is designed to build practical skills in C++ in preparation for advanced Gaming courses. Students will learn about Dynamic Variables, Classes and Structs, OOP Advanced Principles, Exception Handling, and the CMake platform using C++ standard libraries. **Pre-requisite**: RG-780

ROBO-GEEK Game Programming

RG-805:
Epic Games I

This course is an introduction to Epic Games using UE5. It will cover the UE5 installation, Lyra Game Installation, Intro to Blueprints, and Intro to Animation with Metahumans.

Pre-requisite: RG-800

RG-810:
Epic Games II

This course uses the Lyra Starter Game. Students will create a new Experience and a game mode. They will utilize the Geometry Scripting Tool to create New Levels in Lyra Game.

Pre-requisite: RG-805

RG-815:
Epic Games III

This course will cover the second stage of creating a new Level and creating a New Weapon using the Lyra Game. Students will install VS 2022 with C++; they will learn C++ Coding Standard use in UE5. They will develop their First Actor with C++ and Meta sounds.

Pre-requisite: RG-810

RG-820:
Epic Games IV

In this course, the students will work with an Epic Games Tutorial that uses a basic input system using the First-Person Template and the Enhanced Input System. The students will learn how to set up native gameplay tags and how to use them to configure input bindings in the editor with C++.

Pre-requisite: RG-815

RG-825:
Epic Games V

In this course, the students will learn about Game Design, Game Engines, Gameplay scripting, Level Design, Content Pipelines, and Developing AI Games with C++ in Epic Games.

Pre-requisite: RG-820

RG-830:
Epic Games VI

In this course, the students will learn about Developing a Team, Optimizing and Debugging, User Interfaces, Native Programming, Shipping and Releasing, and Game Marketing with C++ in Epic Games.

Pre-requisite: RG-825

ROBO-GEEK AI COURSES

LEVEL IV : AI (Artificial Intelligence) WITH PYTHON

AI-2000: Intro to AI (Artificial Intelligence)
This course provides a foundational understanding of Artificial Intelligence (AI), focusing on Python programming and machine learning concepts. Students will gain hands-on experience using Colab Notebooks and explore real-world applications of AI. (18 Hours)
Pre-requisite: RG-250

AI-2010: Intermediate AI (Artificial Intelligence)
This course aims to comprehensively understand deep learning, emphasizing practical application using TensorFlow and Colab Notebooks. Students will build a solid foundation in Python programming and delve into advanced TensorFlow techniques. (18 Hours)
Pre-requisite: AI-2000

AI-2020: Advanced AI (Artificial Intelligence)
Master computer vision and natural language processing. Learn image processing, object detection, NLP fundamentals, and advanced models. Hands-on with Google Cloud APIs. Explore LLMs, ethics, and future trends. (18 Hours)
Pre-requisite: AI-2010