

Introduction to Computer Science I

In this course, students will not only master the fundamental programming principles but also explore the forefront of technological advancements. They will dive into the captivating realms of artificial intelligence (AI), unraveling the mysteries of machine learning and its real-world applications. Moreover, they will venture into the Metaverse, an emerging virtual world phenomenon that merges physical and digital realities, exploring its potential and impact on society. The course also sets the stage for students to unleash their creativity through game development, leveraging Python to build immersive and interactive experiences. They will learn the essentials of game design, programming mechanics, and graphics rendering, honing their skills to craft captivating games.

Weekly Agenda

Week 1: Introduction to Computer Science

- Introduction to Computer Science
- Fundamental Concepts in Computer Science
- Applications of Computer Science
- Activity: Exploring computers and applications

Week 2: ChatGPT and Artificial Intelligence (AI)

- Introduction to AI
- Fundamental Concepts in AI
- Applications of AI
- Machine Learning and AI
- Activity: Painting with the AI

Week 3: Metaverse and Virtual Reality (VR)

- Introduction to VR
- Fundamental Concepts of VR
- Applications of VR
- The Metaverse and Extended Reality (XR)
- Activity: Exploring the Metaverse

Week 4: Pokémon Go and Augmented Reality (AR)

- Introduction to AR
- Fundamental Concepts of AR
- Applications of AR
- Activity: Exploring the Pokémon world

Week 5: Scratch and Programming I

- Introduction to Programming
- Fundamental Concepts of Programming

- Activity: Developing your own game

Week 6: Scratch and Programming II

- Introduction to if statements
- Activity: Improving your own game

Week 7: Scratch and Programming III

- Introduction to loops
- Activity: Improving your own game

Week 8: Scratch and Programming IV

- Continuation of loops
- Activity: Improving your own game

Week 9: Scratch and Programming V

- Activity: Finalizing your own game

Week 10: Pac-Man and Front-End Development

- Introduction to Front-End Development
- Fundamental Concepts of Front-End Development
- Activity: Tinkering with Pac-Man