

# CSE 111 : Game Development I / 2D Game Programming

**Credits** 5

Write software to simulate 2 Dimensional environments and build virtual worlds. Learn techniques to track and interact with game objects in real-time with programming languages and game engines.

**Prerequisites**

[CSE 103](#) and concurrent enrollment in [CSE 140](#)

**Course Outcomes**

- Identify common tools used to create media for 2 Dimensional graphics.
- Describe the process of animation.
- Create working 2 Dimensional applications with game elements for player control and artificial intelligence.
- Utilize common media formats for storing picture and game data.
- Work with graphic design tools to create sprites and textures for game worlds.
- Build state machines that can track progress and status of objects.
- Utilize pre-built game engines to deliver graphic, audio, and network capabilities to game software.
- Identify fundamental differences between pixel and vector graphics.
- Demonstrate understanding of math required for 2 Dimensional movement and positioning and translate and optimize equations to programming code.
- Create effective and intuitive UI elements to enable complex actions with a minimal learning curve.
- Deploy finished software to other computer systems.