



**BAKER COLLEGE**  
**STUDENT LEARNING OUTCOMES**

**GSD4310 Unity Game Programming 1**  
**3 Credit Hours**

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**Student Learning Outcomes and Enabling Objectives**

1. Design a computer game using the Unity 3D game engine processes
  - a. Setup the Camera for different game types.
  - b. Control the player's avatar.
  - c. Use different resources from simple game shapes to complex models to accomplish game element and design tasks.
  - d. Evaluate the role lighting will play in your game design
  - e. Determine whether using the baking or dynamic lighting process is appropriate for your game design
  - f. Evaluate the use of the physics engine in your game design
  - g. Determine the appropriate use of movement in your game design
  - h. Analyze how the concept of gravity will impact your game objects
  - i. Use the principles of speed and acceleration as appropriate in your game design
  - j. Select audio tools to develop appropriate sound effects for your game design
  - k. Add elements to your game design
2. Create a functional 3D computer game by combining design and programming for the Unity 3D game engine
  - a. Use scripting to help program a 3D computer game
  - b. Select appropriate uses of a particle accelerator in your game design
  - c. Add game details using the animation editor

**Big Ideas and Essential Questions**

**Big Ideas**

- Game engine processes
  - Start to finish game building.
  - Physics engine
  - Audio
  - Simple A.I.

- Game flow
- Game engine programming
  - Scripting
  - Best practices

### **Essential Questions**

1. How do I use the game engine processes to build a game?
2. How does the type of game determine the programming needed to work within the game engine?

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These SLOs are not approved for experiential credit.

**Effective: Fall 2022**