BAKER COLLEGE
STUDENT LEARNING OUTCOMES

CS3820

Unreal Game Programming II

3 Semester Hours

Student Learning Outcomes and Enabling Objectives

1. Demonstrate how games are created in the Unreal4 engine using C++.

    a. Work with meshes, animations and sound assets.

    b. Explore different terrains and environments in game design.

    c. Create particles and special effects.

2. Use Visual Studio and the Unreal4 tools and pipelines to create gameplay, characters and environments.

    a. Create gameplay using Visual Studio and the Unreal4 tools.

    b. Create characters using Visual Studio and the Unreal4 tools.

    c. Create different terrains and environments using Visual Studio and the Unreal4 tools.

3. Develop solutions to gameplay programming problems using C++ language constructs.

    a. Apply iteration, selection, and variables by using C++ language constructs.

    b. Apply inheritance, polymorphism, classes, and objects by using C++ language constructs.

    c. Apply templates, containers, and dynamic memory allocation by using C++ language constructs.

    d. Apply game systems, actors, npcs, and monsters by using C++ language constructs.

    e. Apply inventory and interactive items using C++ language constructs.

    f. Apply combat systems, spells, ranged, and melee using C++ language constructs.

Big Ideas and Essential Questions

Big Ideas

- **Create game content in the editor**

  o **working with meshes, animations and sound assets**

  o **creating terrains and environments**

  o **creating particles and special effects**

- **Create game logic**

  o **using C++**

    ▪ **iteration, selection, variables**

    ▪ **inheritance, polymorphism, classes, objects**

    ▪ **templates, containers, dynamic memory allocation**

    ▪ **game systems, actors, npcs, monsters**

    ▪ **inventory, interactive items**

    ▪ **combat systems, spells, ranged, melee**

Essential Questions

1. How is game logic creating in C++?
2. How do we integrate our C++ work into Unreal gameplay
3. What role does visual scripting play in a C++ Unreal4 project

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These SLOs are approved for experiential credit.

Effective: Fall 2017

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