GROSSMONT COLLEGE

COURSE OUTLINE OF RECORD

Curriculum Committee Approval: 04/20/2021

GCCCD Governing Board Approval: 05/18/2021

COMPUTER SCIENCE INFORMATION SYSTEMS – INTERMEDIATE VIDEO GAME DEVELOPMENT

1. Course Number Course Title Semester Units
2. CSIS 161 Intermediate Video Game Development 3

Semester Hours

3 hours lecture 48-54 total hours 96-108 outside-of-class hours 144-162 total hours

1. Course Prerequisites

None

Corequisite

None

Recommended Preparation

A "C" grade or higher or “Pass” in CSIS 160 or equivalent.

1. Catalog Description

This course will provide students with the theory and practice of computer game design and development. Students will build on their knowledge of PC and console game theory, designing and creating their own games. This course will emphasize game story development and game character development as it pertains to designing a viable video game project. Sprite animation, input controls and sound programming will be covered. Student will be introduced to 3D animation software. This course is intended for non-computer programmers.

1. Course Objectives

The student will:

1. Distinguish among the major styles and methods of game development
2. Design appropriate storyboards and game scenarios.
3. Evaluate different game development approaches
4. Create and plan for game development and character development.
5. Evaluate and determine game development hardware options
6. Apply game objects, Terrain, and characters for rapid prototyping
7. Create complete games using chosen platform
8. Instructional Facilities

Computer lab with Internet access and appropriate software.

1. Special Materials Required of Student

Appropriate electronic storage media

7. Course Content

1. Your First Game
2. Events and Actions
3. Game story for viable game development
4. Target the Player
5. Game Design: Interactive Challenges
6. Inheriting Events
7. Maze Games: More Cute Things in Peril
8. Game Design: Levels and Features
9. Cooperative Games: Flying Planes
10. Competitive Games: Playing Fair with Tanks
11. Game Design: Balance in Multi-Player Games
12. GML Programming
13. Clever Computers: Playing Tic-Tac-Toc
14. Intelligent Behavior: Animating the Dead
15. Creation of 2D game using existing game engine

8. Method of Instruction

a. Lecture and demonstration in a traditional classroom or via electronic means, such as with videos

b. Demonstrations Discussion of current best practices in video game design and development.

c. Hands-on computer usage

9. Methods of Evaluating Student Performance

a. Examinations and quizzes including a written or objective final examination

b. Skills demonstration

c. Written quizzes and exams that measure students’ ability to describe video game principles, as well as the ability to analyze a goal of designing and implementing a video game choosing among the development alternatives

d. Scenario-based lab activities that measure students’ ability to design, edit and create video games on computers or mobile devices

10. Outside Class Assignments

a. Hands-on exercises

b. Reading assignments

 c. Complete Study Guides provided covering major topics

 d. Troubleshoot/analyze potential video game scenarios, investigate potential alternatives, and implement action to achieve a determined result

 e. Complete and pass section quizzes and the course final exam

 f. Read and analyze instructor assigned case studies; post analysis and comments to the class discussion board

 g. Respond to other students’ analysis and comments on the class discussion board

11. Representative Texts

 a. Representative Text(s):
 Borromeo, Nicolas. *Hands-On Unity 2020 Game Development*. Birmingham, England. Packt Publishing, 2020.

 b. Supplementary texts and workbooks:
 None

Addendum: Student Learning Outcomes

 Upon completion of this course, our students will be able to do the following:

 a. Analyze and understand the requirements of a given problem.

 b. Develop an acceptable design solution.

 c. Implement a solution.