Miami Dade College

Course Description

DIG1710 | Introduction to Game Development |4.00 credits

This course is an introduction to the computer game design and development industry. Gaining strong foundational writing skills and a knowledge of word processing and presentation software is suggested prior to enrolling in this course. Students will learn about game development careers, game development and design processes, marketing themes, copyright laws, game company structures, programming languages used by different types of games, the impact of video games on modern society, general programming concepts, how to create game design documentation, and how to use common game development environments.

Course Competencies

Competency 1: The student will demonstrate how to evaluate game concepts by:

1. Comparing different game concepts.
2. Composing a game concept document.
3. Presenting and justifying the game concept.
4. Identifying and comparing the different genres of games.

Competency 2: The student will demonstrate an understanding of various tools that are used in game development by:

1. Identifying different computer programming languages used for game development. Reviewing different development environments for game development.
2. Studying automation software for game and software development.

Competency 3: The student will demonstrate an understanding of the game development process by:

1. Distinguishing the different stages of the game development process.
2. Creating a generic plan for developing a game.

Competency 4: The student will demonstrate an understanding of 3D computer environments by:

1. Reproducing simple objects in different coordinate systems.
2. Manipulating screen coordinates to create new game levels.
3. Converting and exporting objects and levels between different 3D environments.

Competency 5: The student will demonstrate an understanding of game development tools by:

1. Creating simple shapes and structures that can be exported to games or game editors.
2. Modifying an existing level in a game using editing tools.
3. Creating a level that can be ported to an existing game engine or editor.

Competency 6: The student will demonstrate an understanding of how to analyze the different uses of textures by:

1. Creating texture maps for object in games.
2. Modifying existing texture maps to work with new designs.
3. Applying new textures for changing the look and feel of existing game levels.
4. Distinguishing between the different types of texture mappings.

Competency 7: The student will demonstrate an understanding of level design, creation tools, and editors by:

1. Distinguishing the different level building tools.
2. Examining the game development process and application to help design new tools for building levels.

Competency 8: The student will demonstrate an understanding how to design game levels by:

1. Distinguishing the different types of levels in terms fun factor.
2. Discussing how to decrease and increase the difficulty for player each type of game level.
3. Creating a new level for an existing game, that is going to address all the issues of difficulty.

Competency 9: The student will demonstrate an understanding of how to export created levels to existing game engines by:

1. Creating building blocks for game level editors and existing engines.
2. Creating programs that will be able to convert and export levels into game engines and level editors.
3. Modifying existing items to make them exportable in to game engines and level editors.

Competency 10: The student will demonstrate an understanding of game development by:

1. Creating conditional statements and loops for games.
2. Modifying sprites to add simple motion to games.
3. Developing a simple 2D side scrolling game using a game development software kit.

Learning Outcomes:

1. Aesthetic / Creative Activities
2. Communication
3. Critical Thinking