



Western Technical College

## 10152105 Game Development

### Course Outcome Summary

#### Course Information

<b>Description</b>	Introduces the learner to two-dimensional gaming and animation. Topics include further study in Java, inheritance, threads and exception handling. Gaming concepts include chase games, imaging, audio, sprite graphics and tile games.
<b>Career Cluster</b>	Information Technology
<b>Instructional Level</b>	A.A.S. - Associate in Applied Science
<b>Total Credits</b>	2
<b>Total Hours</b>	54

#### Pre/Corequisites

Prerequisite 10152153 Introduction to Java

#### Textbooks

No textbook required.

#### Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability
6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically

8. Refine Professionalism: Improve Critical Thinking
9. Refine Professionalism: Participate Collaboratively
10. Refine Professionalism: Practice Effective Communication

## Course Competencies

### 1. Explore different gaming engines.

#### Assessment Strategies

- 1.1. Presentation

#### Criteria

*You will know you are successful when*

- 1.1. you choose a game engine to use to create your own game.
- 1.2. you explain the pros and cons of the game engine chosen.
- 1.3. you justify your choice based on price, software/hardware needs, and interface capabilities.

#### Learning Objectives

- 1.a. Research different software to build game.
- 1.b. Identify price points.
- 1.c. Understand software and hardware needed to build and run the game.
- 1.d. Explain licensing and marketing options.
- 1.e. Explore interface capabilities.
- 1.f. Identify optimal operating systems to ensure maximum scalability.

### 2. Develop a project management plan for a game.

#### Assessment Strategies

- 2.1. Project timeline
- 2.2. Journal

#### Criteria

*You will know you are successful when*

- 2.1. you state the objective of your proposed game.
- 2.2. you explain the your vision of the game.
- 2.3. you develop a project timeline.
- 2.4. you reflect on the progress of the game development.

#### Learning Objectives

- 2.a. Identify goal/objective/type of game to be developed.
- 2.b. Choose game engine for game development.
- 2.c. Describe what game's final form will be.
- 2.d. Develop a timeline to meet deadlines.
- 2.e. Assign team roles and responsibilities.
- 2.f. Adjust project plan based on progress.

### 3. Incorporate assets in a game environment.

#### Assessment Strategies

- 3.1. Game

#### Criteria

*You will know you are successful when*

- 3.1. you incorporate code into your game.
- 3.2. you apply at least one add-in for you chosen game engine.
- 3.3. you describe what a sprite is and apply it, if applicable, in your game.
- 3.4. you describe collision physics in the game environment and apply it, if applicable, to your game.

#### Learning Objectives

- 3.a. Explore sprite management.

- 3.b. Explore collision.
- 3.c. Explore add-ins available for chosen game engine.
- 3.d. Explore use of classes to handle behavior and inheritance.
- 3.e. Write or import code for game based on requirements of game engine.

**4. Incorporate sound and graphics into game development.**

**Assessment Strategies**

- 4.1. Game

**Criteria**

*You will know you are successful when*

- 4.1. you add at least one form of audio into your game.
- 4.2. you add at least type of graphic into your game.
- 4.3. you explain how audio and graphics are used to affect the gamer's experience.

**Learning Objectives**

- 4.a. Explore means of adding sound into the game (record, import, etc.)
- 4.b. Explore means of adding graphics into the game (create your own, import, etc.)
- 4.c. Add sound to game that enhances the experience.
- 4.d. Add graphics to game that enhances the experience.

**5. Determine the needs of the players.**

**Assessment Strategies**

- 5.1. Game

**Criteria**

*You will know you are successful when*

- 5.1. you describe how to adapt a game for visually impaired players.
- 5.2. you describe ways to adapt a game for hearing impaired players.
- 5.3. you explain different modes of input and player output.
- 5.4. you incorporate at least one adaptation onto your game.

**Learning Objectives**

- 5.a. Identify how games are adapted for visually impaired users.
- 5.b. Identify how games are adapted for hearing impaired users.
- 5.c. Explore different modes of input and output (touch screen, controller, keyboard, voice, etc.).

**6. Apply game design techniques to develop a game.**

**Assessment Strategies**

- 6.1. Game
- 6.2. Presentation

**Criteria**

*You will know you are successful when*

- 6.1. you include all criteria of game design techniques into your game as described in the class developed rubric.

**Learning Objectives**

- 6.a. Develop a story line for your game.
- 6.b. Describe the process of prototyping.
- 6.c. Explore ways to add challenges to the game (leveling up, enemy boss, bonus points/lives, timers, sudden death, transporting etc.)
- 6.d. Identify the importance of iterative processes.
- 6.e. Explore how to maximize game engine's functionality to enhance user experience.

**7. Develop a user's manual for a game.**

**Assessment Strategies**

- 7.1. Product - User's Manual
- 7.2. Presentation

## Criteria

*You will know you are successful when*

- 7.1. you write a table of contents for your game.
- 7.2. you describe the objective, rules, and user's interface for the game.
- 7.3. you revise the manual based on feedback.
- 7.4. you publish the manual.

## Learning Objectives

- 7.a. Examine different user's manuals to compare layouts.
- 7.b. Identify the main components to be included in your manual (overview, rules, hardware requirements, player interface, etc.)
- 7.c. Define and write the game rules.
- 7.d. Beta test the manual for integrity.
- 7.e. Revise the manual based on feedback.