



Western Technical College

10152105 Game Development

Course Outcome Summary

Course Information

Description	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.
Career Cluster	Information Technology
Instructional Level	A.A.S. - Associate in Applied Science
Total Credits	2
Total Hours	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.