

CompuScholar, Inc.

Alignment to Utah **Game Development Fundamentals 2** Standards

Utah Course Details:

Course Title:	Game Development Fundamentals 2
Primary Career Cluster:	CTE / Information Technology
Course Code(s):	35.02.00.00.046
Standards Link:	Strands and Standards, Game Development Fundamentals 2, July 2017

CompuScholar Course Details:

Course Title:	CompuScholar: Unity Game Programming
Course ISBN:	978-0-9887070-7-8
Course Year:	2017

Note 1: Citation(s) listed may represent a subset of the instances where objectives are met throughout the course.

Note 2: Citation(s) refer to the "Lesson Text" elements within the course, unless otherwise noted. The course "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full details.

Note 3: Per guidance from the Utah State BOE, all items listed in parentheses after a standards line item are illustrative examples only and are not exhaustive requirements that must all be met. Publishers may choose to meet those standards with their own examples or relevant material.

Course Description

This course is designed to provide students with knowledge and project based experience of fundamental gaming development concepts relating to STEM. These concepts include game design, scripting, creation of digital assets, graphic resources, animations, understanding hardware, problem solving, critical thinking, collaboration, and project management.

Course Standards

STRAND 1: Video Game History: Students will review the relevant history of video games.	CITATION(S)
Standard 1 Relevant History -- The student will be able to discuss the relevant history of gaming including: arcade, console, computer, mobile, and modern devices.	See Below
• Identify Key figures and designers in the history of gaming	Supplemental Chapter 2, Lesson 2

• Identify early games	Supplemental Chapter 2, Lesson 1 Supplemental Chapter 2, Lesson 2
• List important milestones in gaming	Supplemental Chapter 2, Lesson 2
Standard 2 Game Ratings -- Students will be familiar with the ESRB ratings categories.	See Below
• Understand child and youth ESRB ratings: eC - early childhood, E - Everyone, E 10+ - Everyone 10 and up, T - Teen • Understand what makes the adult ratings: M - Mature, AO - Adults only, RP - Rating pending	Supplemental Chapter 3, Lesson 3

STRAND 2: Communication Features and Game Interface Design. Students will review communication features and game interface design	CITATION(S)
Standard 1 Game Design and Functionally -- Students will understand the design concept and importance of game functionality.	See Below
• Understand game feedback to user	Chapter 13, Lesson 2 Chapter 13, Lesson 3
• Understand game control for user	Chapter 4, Lesson 3 Chapter 13, Lesson 2
Standard 2 Design Feedback -- Students will understand the design feedback concepts.	See Below
• List game strategies	Chapter 13, Lesson 1 Chapter 13, Lesson 2 Chapter 13, Lesson 3
• Understand duration	Chapter 13, Lesson 2 Chapter 13, Lesson 3
• Describe game success	Chapter 13, Lesson 1 Chapter 13, Lesson 2 Chapter 13, Lesson 3
Standard 3 Design Control -- Students will understand the design control concepts	See Below
• Understand design functionality	Chapter 4, Lesson 3 Chapter 13, Lesson 2

• List usability in design control	Chapter 4, Lesson 3
• Describe accessibility	Chapter 13, Lesson 2
• Understand immersion	Chapter 13, Lesson 3
• Describe design aesthetics	Chapter 13, Lesson 1
Standard 4 Player View -- Students will understand the importance of "Player View" in game design	See Below
• Understand the following view options: • Two dimensional • Isometric • First Person • Third Person	Chapter 23, Lesson 1
Standard 5 Interface Elements -- Students will understand the classifications of interface elements	See Below
• Understand diegetic & non-diegetic elements	Chapter 6, Lesson 4 Chapter 15, Lesson 4
• Understand spatial elements	Chapter 6, Lesson 4 Chapter 8, Lesson 2 Chapter 15, Lesson 4 Chapter 22
• List meta (sic)	Chapter 6, Lesson 4 Chapter 8, Lesson 2 Chapter 15, Lesson 4 Chapter 22

STRAND 3: Game Platforms - Students will review and identify various gaming platforms and develop at least one game on one of those platforms.	CITATION(S)
Standard 1 Consoles and Generations -- Students will be able to identify console and console generations. • Describe Atari and its generations • Describe Nintendo and its generations • Describe Sega and its generations • Describe Playstation and its generations • Describe Microsoft and its generation	Chapter 24, Lesson 4 Supplemental Chapter 2, Lesson 2

<p>Standard 2 Computer Platforms -- Students will be able to identify computer platforms and features.</p> <ul style="list-style-type: none"> • Identify Windows features • Identify Macintosh features • Identify Linux features 	<p>Chapter 24, Lesson 4 Supplemental Chapter 2, Lesson 2</p>
<p>Standard 3 Mobile Platforms -- Students will be able to identify and describe mobile platforms and features.</p> <ul style="list-style-type: none"> • Identify phones and describe features (Android, iOS, Windows) • Identify tablets and describe features (Android, iOS, Windows) • Identify Nintendo and describe features (Gameboy, DS, 3DS) • Identify Playstation and describe features (PSP, Vita) 	<p>Chapter 24, Lessons 3-4 Supplemental Chapter 2, Lesson 2</p>

<p>STRAND 4: Game Genres and Types - Students will review and identify various game genres and types and develop at least one game using a game genre.</p>	<p>CITATION(S)</p>
<p>Standard 1 Game Genres -- Students will be able to identify game genres Action, Adventure, Role playing (RPG), Simulation, Strategy. Multiplayer.</p>	<p>Supplemental Chapter 2, Lesson 1</p>
<p>Standard 2 Game Genre Development -- Students will be able to use a selected game genre to develop a game.</p>	<p>Chapter 14 and Chapter 26 Projects - students will create their own unique game using any selected genre.</p>

<p>STRAND 5: Game Design Production Cycle - Students will be able to create a Game using the Game Design Production Cycle</p>	<p>CITATION(S)</p>
<p>Standard 1 Implement Project Management -- Students will be able to implement project management (such as Agile, Scrum, etc.)</p>	<p>See Below</p>
<ul style="list-style-type: none"> • Create an analog or digital prototype version of a game 	<p>Chapter 13, Lesson 1</p>
<ul style="list-style-type: none"> • Create a game using the design production process 	<p>Chapter 25, Lessons 1 - 3 Chapter 14 and Chapter 26 (team projects, full lifecycle)</p>
<ul style="list-style-type: none"> • Work in a team 	<p>Chapter 25, Lessons 1 - 3 Chapter 14 and Chapter 26 (team projects, full lifecycle)</p>

<ul style="list-style-type: none"> Utilize project management skills 	Chapter 25, Lessons 1 - 3 Chapter 14 and Chapter 26 (team projects, full lifecycle)
Standard 2 Game Concept Development -- Students will be able to develop and game concept.	See Below
<ul style="list-style-type: none"> Create a game proposal - "Pitch Document" 	Chapter 13, Lesson 1 Chapter 13 Activity Chapter 14, Activity 1 Chapter 26, Activity 1
<ul style="list-style-type: none"> Develop a concept with considerations for plan, cost, and time 	Chapter 13, Lesson 1 Chapter 13 Activity Chapter 14, Activity 1 Chapter 25, Lesson 1 Chapter 26, Activity 1
Standard 3 Pre Production (Design) -- Students will be design documents as part of the Pre Production (Design) of the game.	PUBLISHER'S NOTE: We cover these items in a combination of "Requirements" and "Design" documents, per standard software engineering practice.
<ul style="list-style-type: none"> Write a script - writing the storyline script Create storyboards Design the game Select a game engine Plan game play mechanics Put together a comprehensive design document detailing the game's goals Plan level designs, rooms Sketch and plan characters Build an overall blueprint 	Chapter 13, Lessons 1 - 4 Chapter 13 Activity Chapter 14, Activities 1 - 2 Chapter 25, Lessons 2 - 3 Chapter 25 Activity Chapter 26, Activities 1 - 2
Standard 4 Production (Create) -- Students will be able to create the assets and incorporate them in a game.	See Below
<ul style="list-style-type: none"> Create a prototype of game 	Chapter 13, Lesson 1
<ul style="list-style-type: none"> Create art and text 	Chapter 6, Lesson 4 Chapter 23, Lesson 3
<ul style="list-style-type: none"> Develop sounds for the game 	Chapter 18
<ul style="list-style-type: none"> Implement scripting as needed 	Chapter 3 and throughout the course

• Create game animations	Chapter 17
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STRAND 6: Post Production - Game Testing and Release. Students will implement game testing and release the game after it has been developed.	CITATION(S)
Standard 1 Alpha Testing - Students will alpha test games <ul style="list-style-type: none"> • Find and repair bugs and glitches • Make needed adjustments 	Chapter 11 Chapter 14, Activity 3 Chapter 25, Lesson 1 Chapter 26, Activity 3
Standard 2 Beta Testing -- Students will beta test games <ul style="list-style-type: none"> • Implement beta testing • Receive feedback from beta testers • Make needed adjustments 	Chapter 24 Chapter 25, Lesson 1
Standard 3 Game Release -- Students will publish/release games.	Chapter 24 Chapter 25, Lesson 1
Standard 4 Game Maintenance – Students will provide for maintenance of the game	Chapter 25, Lesson 1

STRAND 7: Understanding Careers - Students will explore careers and training in the game design and production world.	CITATION(S)
Standard 1 Career Awareness – Students will develop career awareness related to working in the gaming industry.	See Below
<ul style="list-style-type: none"> • Identify personal interests and abilities related to Gaming, such as: 1) Identify personal creative talents 2) Identify organizational and leadership skills 3) Identify special interest areas 	Chapter 25, Lesson 3 Supplemental Chapter 3, Lesson 5 / Activity 5
<ul style="list-style-type: none"> • Identify the members of the Gaming industry's job titles, such as: Programmer, Level Artist, Character Artist, Texture Artist, Animator, Programmer, Texture Artist, Animator, GUI Designer, and Sound Designer. 	Chapter 25, Lesson 3 Supplemental Chapter 3, Lesson 5 / Activity 5
<ul style="list-style-type: none"> • Investigate career opportunities, trends, and requirements related to Gaming Industry careers. 	Supplemental Chapter 3, Lesson 5 / Activity 5 Supplemental Chapter 3, Lesson 7 / Activity 7
Standard 2 Educational Pursuits – Students will develop a realistic Plan for College and Career Readiness to help guide further educational pursuits	See Below

<ul style="list-style-type: none"> • Identify factors for employability and advancement in the gaming industry. 	<p>Chapter 25, Lesson 3 Supplemental Chapter 3, Lesson 5 / Activity 5</p>
<ul style="list-style-type: none"> • Survey existing Game Development businesses to determine what training is required 	<p>Supplemental Chapter 3, Lesson 5 / Activity 5</p>
<ul style="list-style-type: none"> • Survey universities and colleges to determine programs, degrees and training availability 	<p>Supplemental Chapter 3, Lesson 5</p>
<ul style="list-style-type: none"> • Develop employability competencies/characteristics: responsibility, dependability, ethics, respect, and cooperation 	<p>Chapter 25, Lesson 3 Supplemental Chapter 3, Lesson 5 / Activity 5</p>
<ul style="list-style-type: none"> • Achieve high standards of personal performance with a positive work ethic and attitude 	<p>Chapter 25, Lesson 3 Supplemental Chapter 3, Lesson 5 / Activity 5</p>