Florida Department of Education
Student Performance Standards

Course Title: **Game & Simulation Foundations**
Course Number: **8208110**
Course Credit: **1**

Course Description:

This course is designed to provide an introduction to game and simulation concepts and careers, the impact game and simulation has on society and industry, and basic game/simulation design concepts such as rule design, play mechanics, and media integration. This course compares and contrasts games and simulations, key development methodologies and tools, careers, and industry-related information. This course also covers strategies, processes, and methods for conceptualizing a game or simulation application; storyboarding techniques; and development tools.

Hands-on activities using an entry-level game development tool should be integrated into the curriculum. **Regardless of topic sequencing, the culminating activity is the creation of a playable game.**

<u>Game & Simulation Creation</u>

Instruction relating to the standards in this section should be interspersed throughout the entire course with the other standards taught progressively in the context of game design and development.

Abbreviations:
FS-M/LA = Florida Standards for Math/Language Arts
NGSSS-Sci = Next Generation Sunshine State Standards for Science

CTE Standards and Benchmarks	FS-M/LA	NGSSS-Sci
01.0 Create a game design production plan that describes the game play, outcomes, controls, interface and artistic style of a video game. – The student will be able to:		
01.01 Use industry standard game design production documents to create a game design production plan.		
02.0 Use information technology tools. – The student will be able to:		
02.01 Use personal information management (PIM) applications to increase workplace efficiency.		
02.02 Employ technological tools to expedite workflow including word processing, databases, reports, spreadsheets, multimedia presentations, electronic calendar, contacts, email,		

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and internet applications.		
03.0 Design and create a playable game. – The student will be able to:		
03.01 Use a number of computer tools to enhance and ease game programming and artistry.		
03.02 Use a game engine to create a playable game.		
03.03 Use animated objects.		
03.04 Integrate sound and music to enhance the game experience.		
03.05 Test and debug to game completion.		
04.0 Categorize the different gaming genres. – The student will be able to:		
04.01 Research, compare and categorize the different gaming genres.		
04.02 Analyze examples of different gaming genres.		
04.03 Define and use the necessary vocabulary related to gaming and the different genres.		
05.0 Categorize different gaming platforms. – The student will be able to:		
05.01 Research, compare and categorize different gaming platforms.		
05.02 Analyze the distinctive features of each system.		
05.03 Define the target audience for different platforms based on features, available games, and price of system and games.		
05.04 Define and use the necessary vocabulary related to gaming platforms.		
06.0 Understand the historical significance of electronic and non-electronic games. – The student will be able to:		
06.01 Discuss the history of non-electronic games.		
06.02 Describe the history and theory of mainstream and experimental media including radio, movies, television, art, and theatre.		
06.03 Explain the historical timeline of electronic games, marking the significant highlights in their evolution.		
07.0 Describe the trends in current and future game development. – The student will be able to:		
07.01 Determine and analyze the significant trends in game development in the past two decades.		

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07.02 Research and brainstorm the possibilities for the future of electronic games based on current and emerging technologies and future predictions.		
08.0 Identify the business model commonly used in game development industries. – The student will be able to:		
08.01 Identify, define and discuss the different ways games are funded, marketed and sold.		
08.02 Identify and describe licensing management for different gaming platforms.		
08.03 Discuss the product value and business differences between major game platforms.		
08.04 Identify successful business models and analyze various facets of those models, such as market analysis, marketing strategy, and product value.		
08.05 Discuss the opportunities available to independent game developers and entrepreneurs in the mobile application market.		
09.0 Examine and categorize the significant processes in the production of games. – The student will be able to:		
09.01 Discuss the relationships between publishers, developers, distributors, marketers, and retailers.		
09.02 Identify processes of development including content creation, team roles, design documentation, and process management.		
09.03 Explore and describe the effects of globalization on the design and production of video games.		
10.0 Understand the core tasks and challenges that face a video game design team. – The student will be able to:		
10.01 Identify and define the roles and responsibilities of team members on a video game design team.		
10.02 Describe the effects of group dynamics and the importance of team building for a design team.		
10.03 Explore and discuss methods of communications and scheduling for design teams.		
10.04 Describe the importance and interrelationship between development schedule and budget constraints in video game design.		
11.0 Identify legal issues that affect games, developers and players. – The student will be able to:		
11.01 Define and discuss intellectual property and contract law as it relates to the gaming industry.		
11.02 Describe legal and liability issues that could affect online communities.		
11.03 Compare and contrast government and industry content regulation and industry ratings of video games.		

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12.0 Demonstrate the professional level of written and oral communication required in the game development industry. – The student will be able to:		
12.01 Use listening, speaking, telecommunication and nonverbal skills and strategies to communicate effectively with supervisors, co-workers, and customers.		
12.02 Organize ideas and communicate oral and written messages appropriate for the game development industry environment.		
12.03 Identify, define, and discuss terminology appropriate for both internal and external communications in the game development industry environment.		
12.04 Compose electronic documents used to facilitate formal and informal communication in the game industry such as letters, reports, memos, emails, presentations, budgets, charts and calendars.		
13.0 Investigate career opportunities in the game industry. – The student will be able to:		
13.01 Use personal assessment tools to identify personal strengths and weaknesses related to learning and work environments.		
13.02 Analyze job and career requirements and relate career interests to opportunities in the global economy.		
13.03 Describe job requirements for a variety of occupations within the game development industry.		
13.04 Identify current employment trends and career opportunities in the game industry.		
13.05 Evaluate personal aptitude and skills to match specific employment opportunities.		
13.06 Develop an educational plan to acquire the skills and requirements of a selected employment opportunity within the game industry.		
14.0 Demonstrate an understanding of the vocabulary of the industry for discussing games and play. – The student will be able to:		
14.01 Identify, define, and discuss professional game design and analysis terminology appropriate for internal and external communications in a game design environment.		
14.02 Identify and define the vocabulary used by game players and online gaming communities.		
15.0 Demonstrate research and information fluency. - The student will be able to:		
15.01 Locate, analyze, process, and organize data from multiple sources including the Internet.		
15.02 Play games to research and collect game play data.		
15.03 Evaluate, analyze and document game styles and playability.		
15.04 Determine the dramatic elements in games, including kinds of fun, player types and nonlinear storytelling.		

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16.0 Demonstrate an understanding of the techniques used to evaluate game mechanics, game play, flow and game design. – The student will be able to:		
16.01 Test and analyze games to determine the quality of rules, interfaces, navigation, performance, play, artistry and longevity in design and structure.		
16.02 Research and evaluate the game analysis techniques used by the video game industry.		
16.03 Identify the key elements in a game and make intelligent judgments about whether the game succeeded or failed in its objectives.		
16.04 Evaluate professional reviews and write a critical analysis of a current video game.		
17.0 Identify popular games and identify commonality between them. – The student will be able to:		
17.01 Analyze and deconstruct game environments and interactions.		
17.02 Compare and contrast the top selling video games in terms of player interaction, plot complexity, and reward.		
17.03 Categorize gameplay elements by player type. (killer, talker, explorer and achiever)		
18.0 Understand the general procedure and requirements of game design. – The student will be able to:		
18.01 Describe the design process from conception to production.		
18.02 Explain the iterative nature of game design through the different stages of design iterations including pre-alpha, alpha, beta, release candidate, going gold and support.		
18.03 Develop design plans, for example, character sketches, documentation and storyboards for proposed games.		
19.0 Explore the methods used to create and sustain player immersion. – The student will be able to:		
19.01 Research and define the term "player immersion".		
19.02 Explore and explain the factors that create player immersion in a game.		
19.03 Examine popular games and explain the methods each game uses to increase player immersion.		
20.0 Become familiar with popular game technology such as DirectX, 3DMAX, and different gaming engines. – The student will be able to:		
20.01 Identify and discuss the popular game development tools currently used in the industry.		
20.02 Identify and discuss popular gaming engines.		
20.03 Research and analyze the uses for different game development tools.		

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21.0 Demonstrate language arts knowledge and skills. – The student will be able to:		
21.01 Locate, comprehend and evaluate key elements of oral and written information.		
21.02 Draft, revise, and edit written documents using correct grammar, punctuation and vocabulary.		
21.03 Present information formally and informally for specific purposes and audiences.		
22.0 Demonstrate mathematics knowledge and skills. – The student will be able to:		
22.01 Demonstrate knowledge of arithmetic operations.		
22.02 Analyze and apply data and measurements to solve problems and interpret documents.		
22.03 Construct charts/tables/graphs using functions and data.		
23.0 Demonstrate science knowledge and skills. – The student will be able to:		
23.01 Discuss the role of creativity in constructing scientific questions, methods and explanations.		
23.02 Formulate scientifically investigable questions, construct investigations, collect and evaluate data, and develop scientific recommendations based on findings.		