EVERETT PUBLIC SCHOOLS
VIDEO GAME DESIGN

Course: Video Game Design/Digital Computer Animation for Game Design		**Total Framework Hours:** 90
CIP Code: 110803	☐Exploratory ☒Preparatory	**Date Last Modified:** 12.2013
Career Cluster: Information Technology		**Cluster Pathway:** Information Technology

Industry Recognized Certificates:
List possible certificates students can earn in the course

Work-Based Learning:
List WBL opportunities provided in the course

Course Information:

COMPONENTS AND ASSESSMENTS
Performance Assessments: Students will: • Summative - Career Research on pathways available in the VG industry, a pathway of interest is chosen, and an individual is identified and then introduced to the class using a presentation. • Summative: Students will work collaboratively to create a Wikki that links to relevant articles and information about the impact of Video game industry as well as add their own commentary that uses documented sources. • Formative - History exploration guided questions are researched using timelines located on the internet (KCTS Video Game Revolution) • Summative - history quiz is taken. • Summative - Microsoft's ergonomic use and safe work environment lesson and quiz about what they have learned. • Students will publish their positions on a wiki that addresses the question: Has Video Game Industry caused changes in technology or do the advances in technology cause changes in the Video Game Industry.
Leadership Alignment: TSA - Video Game Competition
Standards and Competencies
Unit: Impact of Video Game Industry: Career and Society
Industry Standards and/or Competencies — **Total Learning Hours for Unit:** 5
Standard WR 1: Career Planning • WR-1.1 Complete, discuss, and analyze the results of personality, career interest, and aptitude assessments • WR-1.2 Explore the career clusters as defined by the U.S. Department of Education and summarize the career opportunities in a cluster of personal interest • WR-1.3 Create a personal career portfolio including academic, certification and technical-skill requirement, career opportunities, expected wages, skills and aptitude necessary and the impact of technology on careers of personal interest.

- WR-1.4 Determine academic/training or certification requirements for transition from one learning level to the next and explore opportunities for earning credit/certifications in high school such as advanced placement, tech prep, International Baccalaureate, college in the high school, military and apprenticeship opportunities.
- WR-1.5 Develop and analyze tables, charts, and graphs related to career interests and make oral presentation regarding the career pathway of your choice.
- WR-1.6 Develop an awareness of financial aid, scholarships, and other sources of income to support postsecondary education/training and discuss the impact of effective college and career planning.
- WR-1.8 Prepare a personal budget reflecting desired lifestyle and compare and contrast at least three careers of interest in regard to salary expectations and education/training costs.
- WR-1.9 Prepare a program of study for at least one career of interest
- WR-1.13 Identify industry certification opportunities

Standard WR 2: Personal Success

- WR-2.1 Implement effective study skills for academic success
- WR-2.2 Develop personal goals using SMART (Specific Measurable Attainable Realistic Timely), objectives and strategies.
- WR-2.5 Use effective time-management and goal setting strategies
- WR-2.6 Effectively use information and communication technology tools; and
- WR-2.7 Identify skills that can be transferable among a variety of careers.
- WR-2.8 Create and complete appropriate documents such as electronic portfolio, personal resumé, employment application, letter of intent, letters of recommendation and thank you letters.
- WR-2.9 Complete job search documents, including job applications and W-4 forms

Standard WR 3: Employability and Entrepreneurship

- WR-3.5 Explore and model characteristics necessary for professional success such as work ethics, integrity, dedication, perseverance, and the ability to interact with a diverse population
- WR-3.6 Complete activities using project- and time-management techniques.
- WR-3.8 Demonstrate dependability, punctuality, and initiative
- WR-3.11Exhibit productive work habits, ethical practices, and a positive attitude

Aligned Washington State Learning Standards	
Arts	
Computer Science	
Educational Technology	
English Language Arts	Conventions of Standard English (9-10) 1 - Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 1a - Use parallel structure. 1b - Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. 2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. 2a - Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. 2b - Use a colon to introduce a list or quotation. 2c - Spell correctly. Knowledge of Language (9-10) 3 - Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. 3a - Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.
Environment & Sustainability	

Financial Education	
Health and Physical Education	
Mathematics	CC: Mathematical Practices (MP) 1 - Make sense of problems and persevere in solving them. 2 - Reason abstractly and quantitatively. 3 - Construct viable arguments and critique the reasoning of others. 4 - Model with mathematics. 5 - Use appropriate tools strategically. 6 - Attend to precision. 7 - Look for and make use of structure. 8 - Look for and express regularity in repeated reasoning.
Science	
Social Studies	

COMPONENTS AND ASSESSMENTS

Performance Assessments:

Students will:

- Formative - How games are made using Game Maker or Flash or Gaming Engine. Is covered and how to plan a game identifying the objects/characters, goal, rewards, story,sounds and effects, level and genre this is done by developing 2 games: the classic pong game and then a second game : Dragon Game
- Formative - Network and File Format --Game files are organized in appropriate folders and versions are saved during the development process, students demonstrate understanding of how to access the backup files created. Students bring external drive storage in addition to saving to their server accounts.
    - Objectives
    - Understand network locations
    - How to create a short cut and location of teacher folders
    - Understand C and D drives on your computer
    - Understanding file size
    - Know how to add a printer to your computer
    - Know how to print preview and select pages to print
    - Understand file extensions
    - Basic Keyboard commands
    - Formative - Students complete a file format treasure hunt
- Summative is for students to create a Space Shuttle Game: Space Shot is an action game where you will control the space shuttle and will attempt to destroy the asteroid by pressing the spacebar to fire a rocket at the asteroid. You will accumulate points each time your rocket collides with the asteroid. Be careful the asteroid will randomly release fiery comets and these comets are deadly! The game will restart if your space shuttle collides with a comet.

Leadership Alignment:

TSA - Video Game Design

Standards and Competencies

Unit: Intro to Game Maker

Industry Standards and/or Competencies | **Total Learning Hours for Unit:** 5

Standard: F-1 Foundational Skills

- F-1.1 Remedial Computer Knowledge – Students will have comfort working in, saving, and retrieving files, accessing network folders in a windowing OS environment.
- F-1.3 Art and Design – Students must be willing to express themselves in traditional and electronic visual media.

Standard: C-1 Computer Science and Applied Programming

- C-1.0 Vocabulary
- C-1.2 Intro to problem solving / UML / flowcharting / pseudo-code
- C-1.3 Variable types
- C-1.4 Data types
- C-1.5 Variables
- C-1.6 Operators and operands
- C-1.7 Statements
- C-1.8 Expressions
- C-1.9 Integrated Development Environment
- C-1.10 Flow control
- C-1.13 Input and Output
- C-1.15 Algorithmic reasoning
- C-1.16 Behaviors

Standard: C-2 Applied Mathematics Concepts

- C-2.0 Vocabulary
- C-2.1 Understanding that mathematics is embedded in all video games.
- C-2.7 A video game use for linear systems is shown
- C-2.8 A video game use for systems of linear equations is shown
- C-2.19 Position coordinate systems

Standard: C-4 Game Design Concepts

- C-4.0 Vocabulary
- C-4.1 History of computer and video game industry
- C-4.2 Definition of computer game
- C-4.3 Entertainment value
- C-4.4 Computer game development process
- C-4.6 Computer game platforms
- C-4.7 Computer game engine and tools
- C-4.8 Scripting
- C-4.12 Design presentation
- C-4.13 Requirement's analysis
- C-4.14 Production of art assets
- C-4.15 Game User Interface design
- C-4.18 Game Design Document
- C-4.19Technical Design Document

Standard WR 4: Problem Solving

- WR-4.1 Employ critical thinking skills independently and in teams to solve problems and make decisions.
- WR-4.2 Employ critical thinking and interpersonal skills to resolve conflicts.
- WR-4.8 Select potential solutions based on reasoned criteria
- WR-4.9 Implement and evaluate solution(s)

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Arts	
Computer Science	

Educational Technology	
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Environment & Sustainability	
Financial Education	
Health and Physical Education	
Mathematics	CC: Mathematical Practices (MP) 1 - Make sense of problems and persevere in solving them. 2 - Reason abstractly and quantitatively. 3 - Construct viable arguments and critique the reasoning of others. 4 - Model with mathematics. 5 - Use appropriate tools strategically. 6 - Attend to precision. 7 - Look for and make use of structure. 8 - Look for and express regularity in repeated reasoning.
Science	
Social Studies	

COMPONENTS AND ASSESSMENTS

Performance Assessments:

Students will:

- Formative: Discussion with an industry speaker (DIGIPEN), students will prepare questions to ask the speaker in advance.
- Formative: Students will be given various popular game names, the game premise will be summarized, then the students will categorize the different roles of the player in the games (one player, 2 player, 1st person, role play)
- Summative: Students will create a Wikki that links to information about 4 of their favorite games and identifies the role of the player, and rates the game.
- Students will also write a description explaining the different roles that players have in their games, they must choose at least 2 different categories of player games.
- Formative: students will rate game play on different environments: WII, Xbox, DS, Internet, Flash, Stand alone computer, phone games. Students will write and submit 2 paragraphs on their view after the presentation of the different environments and then they to; then the class will have a 'debate' in class where 2 people are allowed to respond to for example WII environment quality… (much the mac vs pc debate).
- Summative: Students will create an online survey using moodle to add to the classes website and we will track the results to see if the 'network' agrees with their views.

- Formative - Students will be given several games to play for a short 5-10 minutes then they will be asked to write about who they feel the intended audience is results will be discussed. In class
- Summative - Students will be required on all games to identify the audience for the game they are making and this matching their actual game will be 10 percent of their game grade How games are developed in general is identified: Goals, Decisions, Rewards, Balance, Flow, Story, Characters, sound, special effects, game genres. Students synthesize responses to these after reading and class discussions.
- Formative - students will read a paper on the topic of what makes a good game published by the authors of Game Maker, they will utilize the Cornell notetaking system in summarizing their reading.
- Formative Game: Students will have guided instruction for the game maker planning, events, actions, to create the Mail delivery game
- Summative Game: Ausie cruise. Your cruise ship will leave Seattle port and travel to Hawaii where you will have some fun in the sun. In order to arrive at Hawaii, you must refill your cruise ship with Oil. After you have enough oil collected you will arrive at Hawaii. You will then depart for your final destination to Australia where you will visit the Koala Bears. Have fun on your journey.
- You loose points while you are sailing (use up your oil), you gain points each time you fuel (pick up oil) watch out for pirates that steal you oil.
- The oil arrives is a chance event.

Leadership Alignment:
TSA-Video Game Design

Standards and Competencies

Unit: What makes a good game

Industry Standards and/or Competencies	**Total Learning Hours for Unit:** 5

Standard: F-1 Foundational Skills

- F-1.2 Mathematical Baseline – All students must demonstrate a solid ability to think algebraically.
- F-1.3 Art and Design – Students must be willing to express themselves in traditional and electronic visual media.

Standard: C-1 Computer Science and Applied Programming

- C-1.0 Vocabulary
- C-1.1 Intro to programming languages
- C-1.2 Intro to problem solving / UML / flowcharting / pseudo-code
- C-1.3 Variable types
- C-1.4 Data types
- C-1.5 Variables
- C-1.6 Operators and operands
- C-1.7 Statements
- C-1.8 Expressions
- C-1.9 Integrated Development Environment
- C-1.10 Flow control
- C-1.11 Functions and function calls
- C-1.12 Functions with arguments
- C-1.13 Input and Output
- C-1.15 Algorithmic reasoning
- C-1.16 Behaviors

Standard: C-2 Applied Mathematics Concepts

- C-2.0 Vocabulary
- C-2.1 Understanding that mathematics is embedded in all video games.
- C-2.11 Logic gates

Standard: C-4 Game Design Concepts

- C-4.0 Vocabulary
- C-4.1 History of computer and video game industry
- C-4.2 Definition of computer game
- C-4.3 Entertainment value
- C-4.4 Computer game development process
- C-4.5 Computer game development team
- C-4.6 Computer game platforms
- C-4.7 Computer game engine and tools
- C-4.9 Game genres
- C-4.12 Design presentation
- C-4.13 Requirement's analysis
- C-4.14 Production of art assets
- C-4.15 Game User Interface design
- C-4.18 Game Design Document
- C-4.19Technical Design Document
- C-4.20 Digital prototyping process
- C-4.21 Playability

Aligned Washington State Learning Standards	
Arts	
Computer Science	
Educational Technology	
English Language Arts	CC: College and Career Readiness Anchor Standards for Language Conventions of Standard English 1 - Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. Knowledge of Language 3 - Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. Vocabulary Acquisition and Use 4 - Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate. 5 - Demonstrate understanding of word relationships and nuances in word meanings. 6 - Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Conventions of Standard English (9-10) 1 - Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 1a - Use parallel structure. * 1b - Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.

	2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. 2a - Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. 2b - Use a colon to introduce a list or quotation. 2c - Spell correctly. Knowledge of Language (9-10) 3 - Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. 3a - Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.
Environment & Sustainability	
Financial Education	
Health and Physical Education	
Mathematics	CC: Mathematical Practices (MP) 1 - Make sense of problems and persevere in solving them. 2 - Reason abstractly and quantitatively. 3 - Construct viable arguments and critique the reasoning of others. 4 - Model with mathematics. 5 - Use appropriate tools strategically. 6 - Attend to precision. 7 - Look for and make use of structure. 8 - Look for and express regularity in repeated reasoning.
Science	
Social Studies	

COMPONENTS AND ASSESSMENTS

Performance Assessments:

Students will:

- Formative: Students will go in groups and each group will brainstorm features that can go into a maze game, each feature will be put on index cards and then collected. We will draw from the deck, discuss the feature and vote on why it should be included in the game…what does it add, why would it motivate, how does it add to the main character - supporting character, how does it add to the environment.
- Formative: We will take the features that got the highest vote and, in each team, (same as before) students will storyboard a maze game. Feature emmergence will be defined and we will discuss how it was a factor in winning in the Dragon game, the mail delivery game. Students will then write a paragraph about whether they feel emergence helped those games or not. We will have a stand-up debate/discussion during class time.
- Formative Game: Koala Bears 1,2, 3
- Summative: Students will create the maze they storyboarded in the formative assessment

Leadership Alignment:

TSA - Video Game Design

Standards and Competencies

Unit: Level Design

Industry Standards and/or Competencies	**Total Learning Hours for Unit:** 25

Standard: C-1 Computer Science and Applied Programming

- C-1.0 Vocabulary
- C-1.1 Intro to programming languages
- C-1.2 Intro to problem solving / UML / flowcharting / pseudo-code
- C-1.3 Variable types
- C-1.4 Data types
- C-1.5 Variables
- C-1.6 Operators and operands
- C-1.7 Statements
- C-1.8 Expressions
- C-1.9 Integrated Development Environment
- C-1.10 Flow control
- C-1.11 Functions and function calls
- C-1.12 Functions with arguments
- C-1.13 Input and Output

Standard: C-4 Game Design Concepts

- C-4.0 Vocabulary
- C-4.2 Definition of computer game
- C-4.3 Entertainment value
- C-4.4 Computer game development process
- C-4.5 Computer game development team
- C-4.6 Computer game platforms
- C-4.7 Computer game engine and tools
- C-4.8 Scripting
- C-4.9 Game genres
- C-4.10 Character / enemy design
- C-4.11 Story proposal
- C-4.12 Design presentation
- C-4.13 Requirement's analysis
- C-4.14 Production of art assets
- C-4.15 Game User Interface design
- C-4.17 Sound and music
- C-4.18 Game Design Document
- C-4.19Technical Design Document
- C-4.21 Playability

Standard WR 4: Problem Solving

- WR-4.1 Employ critical thinking skills independently and in teams to solve problems and make decisions.
- WR-4.2 Employ critical thinking and interpersonal skills to resolve conflicts.
- WR-4.6 Describe methods of researching and validating reliable information relevant to the problem
- WR-4.7 Explain strategies used to formulate ideas, proposals and solutions to problems
- WR-4.9 Implement and evaluate solution(s)

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Arts	
Computer Science	

Educational Technology	
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Environment & Sustainability	
Financial Education	
Health and Physical Education	
Mathematics	CC: Mathematical Practices (MP) 1 - Make sense of problems and persevere in solving them. 2 - Reason abstractly and quantitatively. 3 - Construct viable arguments and critique the reasoning of others. 4 - Model with mathematics. 5 - Use appropriate tools strategically. 6 - Attend to precision. 7 - Look for and make use of structure. 8 - Look for and express regularity in repeated reasoning.
Science	
Social Studies	

COMPONENTS AND ASSESSMENTS

Performance Assessments:

Students will:

- Formative: Students will be given a series of games to play, and they will categorize them as one of the following (Cooperative, Competitive, Balanced)
- Formative: Students will be given a group of games that are all cooperative, they will take notes on what they liked about the game and a list will be generated during a report out discussion.
- Formative: Students will generate a list of games that they play that are competitive in nature they will identify if the competition is (dependent, independent, or balanced with some cooperative elements) A fun factor will be used to rate the different types and discussion on the best ways to do it will proceed their outline for a good competitive game that uses tanks as the player. They will identify the goal, obstacles, the rewards, the learning curve, the challenge curve of the game.
- Formative Game: students will create a cooperative flying game
- Summative Game: student will create a competitive tank game that uses views, fires shells, has secondary weapons, and rewards at different levels.

Leadership Alignment:

TSA - Video Game Design

Standards and Competencies	
Unit: Multiplayer Games	
Industry Standards and/or Competencies	**Total Learning Hours for Unit:** 25

Standard: C-1 Computer Science and Applied Programming

- C-1.0 Vocabulary
- C-1.1 Intro to programming languages
- C-1.2 Intro to problem solving / UML / flowcharting / pseudo-code
- C-1.3 Variable types
- C-1.4 Data types
- C-1.5 Variables
- C-1.6 Operators and operands
- C-1.7 Statements
- C-1.8 Expressions
- C-1.9 Integrated Development Environment
- C-1.10 Flow control
- C-1.11 Functions and function calls
- C-1.12 Functions with arguments
- C-1.13 Input and Output
- C-1.15 Algorithmic reasoning
- C-1.16 Behaviors
- C-1.20 Inheritance

Standard: C-2 Applied Mathematics Concepts

- C-2.0 Vocabulary
- C-2.1 Understanding that mathematics is embedded in all video games.
- C-2.4 Fractions
- C-2.5 Functions and transformations
- C-2.6 Graphing functions
- C-2.7 A video game use for linear systems is shown
- C-2.8 A video game use for systems of linear equations is shown
- C-2.9 A video game use for quadratic equations is shown
- C-2.11 Logic gates
- C-2.16 Vectors
- C-2.19 Position coordinate systems

Standard: C-3 Art and Design Concepts

- C-3.0 Vocabulary
- C-3.1 Art/design elements
- C-3.4 Intro to 2D drawing application
- C-3.5 Anatomy of motion
- C-3.6 Keyframing and Tweening
- C-3.7 Image file types
- C-3.13 Character design

Standard: C-4 Game Design Concepts

- C-4.0 Vocabulary

- C-4.1 History of computer and video game industry
- C-4.2 Definition of computer game
- C-4.3 Entertainment value
- C-4.4 Computer game development process
- C-4.5 Computer game development team
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- C-4.11 Story proposal
- C-4.12 Design presentation
- C-4.13 Requirement's analysis
- C-4.14 Production of art assets
- C-4.15 Game User Interface design
- C-4.16 AI design
- C-4.17 Sound and music
- C-4.18 Game Design Document
- C-4.19Technical Design Document
- C-4.20 Digital prototyping process
- C-4.21 Playability
- C-4.22 Measuring and handling player feedback

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Computer Science	
Educational Technology	
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Health and Physical Education	

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Science	
Social Studies	

COMPONENTS AND ASSESSMENTS

Performance Assessments:

Students will:

- Summative: This is the final project for the semester and culminates in students creating a video game that meets the requirements of the TSA video game design competition. They will work in teams to accomplish this task.
- OVERVIEW
  Participants develop an E-rated game that focuses on the subject of their choice. The game should be interesting, exciting, visually appealing and intellectually challenging. The game should have high artistic, educational, and social value. A working, interactive game will be submitted in gmk and exe.
- PURPOSE
  Game design demands the use of complex intellectual, artistic, and technical skills. Once learned, these skills may be applied in many other high technology occupations within the sciences, technology and the arts. A well-designed game not only entertains but often requires the game player to use complex problem-solving skills. Game development is a major industry today and its potential as an instructional tool is virtually infinite.
- ELIGIBILITY
  Up to Three (3) people per team. There will be a minimum of two (1) person per team.
- TIME LIMITS

A. Entries must be completed by the final exam date for the class.
B. The game MUST execute and be played directly from an exe file.
C. The game submitted for evaluation must be greater than three (3) minutes in length of play and must be interactive. Evaluator must be able to play the game to the fifth (5th) level.

- ATTIRE
  Professional dress worn for the presentation of your game to the class
- Evaluation PROCEDURE

A. Teams turn in their notebooks prior to their presentation a 20 point penalty will be assessed for late notebooks.
B. Team members will present their game to the class on the final exam day. 5 bonus points will be given for each day that a team has their game ready early and is ready to present (up to 10 bonus points possible). The team presentation will take up to 5 minutes and should include the following:

1. Team introduction
2. Game storyline overview – Presentation of game package (can work with the photo class or graphic arts classes to create your game box)
3. Explanation of controls
4. Explanation of game goal
5. Explanation of game genre
6. Explanation of the value of the game to education or society
7. Play of the game through 3 levels
8. Conclusion—what motivated the team in the making of the game, a lesson they learned (a new feature)

9. Question answer period.

C. Each team will meet with the teacher following a posted schedule and explain their notebook and game, discussing the purpose, value, design, rules, and development process of its work.

- EVALUATION: Evaluation is based on the game's aesthetics, flow, story, content, sound (preferred but not required) and characters. The game should be entertaining, exciting, and challenging and have social and educational value. Ten (10) bonus points may be added by the instructor for exceptional game features, or for content showing exemplary educational or social value

Leadership Alignment:
TSA - Video Game Design

Standards and Competencies

Unit: Designing your own game

Industry Standards and/or Competencies	**Total Learning Hours for Unit:** 25

Standard: C-1 Computer Science and Applied Programming

- C-1.0 Vocabulary
- C-1.1 Intro to programming languages
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- C-1.6 Operators and operands
- C-1.7 Statements
- C-1.8 Expressions
- C-1.9 Integrated Development Environment
- C-1.10 Flow control
- C-1.11 Functions and function calls
- C-1.12 Functions with arguments
- C-1.13 Input and Output
- C-1.15 Algorithmic reasoning
- C-1.24 Structures

Standard: C-2 Applied Mathematics Concepts

- C-2.0 Vocabulary
- C-2.1 Understanding that mathematics is embedded in all video games.
- C-2.5 Functions and transformations
- C-2.7 A video game use for linear systems is shown
- C-2.8 A video game use for systems of linear equations is shown
- C-2.9 A video game use for quadratic equations is shown

Standard: C-3 Art and Design Concepts

- C-3.1 Art/design elements
- C-3.2 Art/design principles
- C-3.5 Anatomy of motion
- C-3.10 The design process
- C-3.13 Character design

Standard: C-4 Game Design Concepts

- C-4.0 Vocabulary

- C-4.2 Definition of computer game
- C-4.3 Entertainment value
- C-4.4 Computer game development process
- C-4.5 Computer game development team
- C-4.6 Computer game platforms
- C-4.7 Computer game engine and tools
- C-4.8 Scripting
- C-4.9 Game genres
- C-4.10 Character / enemy design
- C-4.11 Story proposal
- C-4.12 Design presentation
- C-4.13 Requirement's analysis
- C-4.14 Production of art assets
- C-4.15 Game User Interface design
- C-4.16 AI design

  C-4.17 Sound and music
- C-4.18 Game Design Document
- C-4.19Technical Design Document
- C-4.21 Playability
- C-4.22 Measuring and handling player feedback
- A-4.23 Cultural sensitivity and appreciation

Standard WR 6: Teamwork and Cooperation

- WR-6.1 Employ leadership skills to accomplish organizational goals and objectives.
- WR-6.2 Establish and maintain effective working relationships with others in order to accomplish objectives and tasks.
- WR-6.3 Conduct and participate in meetings to accomplish work tasks.
- WR-6.5 Cooperates rather than compete with team members
- WR-6.6 Offers/seeks suggestions, opinions, and information to team members.
- WR-6.7 Listens to and considers the ideas of team members.
- WR-6.8 Supports group decision even if not in total agreement.
- WR-6.9 Communicates changes or problems to team members.
- WR-6.10 Treat everybody with respect and understanding

Standard WR 7: Ethics and Legal responsibilities

- WR-7.1 Evaluate and justify decisions based on ethical reasoning.
- WR-7.5 Collaborate with classmates in researching or reviewing an Acceptable Use Policy

Aligned Washington State Learning Standards	
Arts	
Computer Science	
Educational Technology	
English Language Arts	Conventions of Standard English (9-10) 1 - Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 1a - Use parallel structure.* 1b - Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.

	2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. 2a - Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. 2b - Use a colon to introduce a list or quotation. 2c - Spell correctly. Knowledge of Language (9-10) 3 - Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. 3a - Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.
Environment & Sustainability	
Financial Education	
Health and Physical Education	
Mathematics	CC: Mathematical Practices (MP) 1 - Make sense of problems and persevere in solving them. 2 - Reason abstractly and quantitatively. 3 - Construct viable arguments and critique the reasoning of others. 4 - Model with mathematics. 5 - Use appropriate tools strategically. 6 - Attend to precision. 7 - Look for and make use of structure. 8 - Look for and express regularity in repeated reasoning.
Science	
Social Studies	

21st Century Skills		
Check those that students will demonstrate in this course:		
LEARNING & INNOVATION **Creativity and Innovation** ☐Think Creatively ☐Work Creatively with Others ☐Implement Innovations **Critical Thinking and Problem Solving** ☐Reason Effectively ☐Use Systems Thinking ☐Make Judgments and Decisions ☐Solve Problems **Communication and Collaboration** ☐Communicate Clearly ☐Collaborate with Others	**INFORMATION, MEDIA & TECHNOLOGY SKILLS** **Information Literacy** ☐Access and /evaluate Information ☐Use and Manage Information **Media Literacy** ☐Analyze Media ☐Create Media Products **Information, Communications and Technology (ICT Literacy)** ☐Apply Technology Effectively	**LIFE & CAREER SKILLS** **Flexibility and Adaptability** ☐Adapt to Change ☐Be Flexible **Initiative and Self-Direction** ☐Manage Goals and Time ☐Work Independently ☐Be Self-Directed Learners **Social and Cross-Cultural** ☐Interact Effectively with Others ☐Work Effectively in Diverse Teams **Productivity and Accountability** ☐Manage Projects ☐Produce Results **Leadership and Responsibility** ☐Guide and Lead Others ☐Be Responsible to Others