# Description: OSPI logo for white bground

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| **Course: Game Design & Programming 1** | | **Total Framework Hours up to: 90** |
| **CIP Code:** | **Exploratory  Preparatory** | **Date Last Modified: 26 June 2018** |
| **Career Cluster:** | | **Cluster Pathway:** |

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| Unit 0: Introduction: Gamer Meet Designer | |
| COMPONENTS AND ASSESSMENTS | |
| Performance Assessments:   * Creation of class folders and accounts, given a set of instructions. * Research notes on a current topic in the game (interactive experience) industry. * Blog post describing and taking a position on the topic researched. | |
| Leadership Alignment:  **Skills USA**   * Local Program Resource Guide (Current Edition) * Connecting Career Development Event (Local, State, and National Level) * Attendance at leadership specific conferences: Made for Excellence * Advanced Leadership Development   Students will **access and evaluate information**, **reason effectively**, and **solve problems** while researching a current issue in the industry. Students will **apply technology effectively**, reviewing educational technology skills, industry tools, and the computer-based classroom learning environment including the Canvas LMS. | |
| Standards and Competencies | |
| Standard/Unit:  Use physical and electronic tools to manage information and communicate ideas to team members and global collaborators. Make informed choices about the tool to use.   * **WSCSLS-3A-I-2-22**: Debate the social and economic implications associated with ethical and unethical computing practices (e.g., intellectual property rights, hacktivism, software piracy, diesel emissions testing scandal, new computers shipped with malware). * **WACSLS 3A-I-1-26**: Compare and debate the positive and negative impacts of computing on behavior and culture. * **WACSLS 3A-I-1-27**: Demonstrate how computing enables new forms of experience, expression, communication, and collaborating. * **WSCSLS-3A-I-1-28**: Explain the impact of the digital divide (i.e., uneven access to computing, computing education, and interfaces) on access to critical information. * **CCSS.ELA-Literacy.CCRA.R.2**: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas. * **CCSS.ELA-Literacy.CCRA.W.6**: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. | |
| Competencies: | Total Learning Hours for Unit: 5.5 |
| * Precisely follow a set of written instructions to accomplish a task. * Manage digital files and folders - create, delete, name, rename, and organize. * Organize online resources with bookmarks, manage bookmarks. | |

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| Unit 1: Critical Thinking About Games | |
| COMPONENTS AND ASSESSMENTS | |
| Performance Assessments:   * Demonstrate the ability to use common vocabulary and conceptual frameworks in discussions of game design and development.   + Test of framework knowledge:     - MDA (et al)     - Game elements (Tracey Fullerton)     - Games and related forms (Keith Burgeron)   + Vocabulary test:   + Use of vocabulary and conceptual frameworks in written work and class discussion. * After playtesting a variety of games produce a short report proposing a modification to a game tested using "industry standard" vocabulary and concepts. | |
| Leadership Alignment:  Skills USA:   * Professional Development Program (PDP) * Total Quality Curriculum * SkillsUSA Championships Technical Standards * Leadership Handbook   Students will **reason effectively, use systems thinking**, **solve problems** and **produce results** as we introduce the skill of playtesting games and providing constructive feedback to peers. | |
| Standards and Competencies | |
| Standard/Unit:   * **WSCSLS-3A-A-5-5**: Use user-centered research and design techniques (e.g., surveys, interviews) to create software solutions * **WSCSLS-3A-I-7-25**: Describe how computation shares features with art and music by translating human intention into an artifact. * **WSCSLS-3A-I-1-26**: Compare and debate the positive and negative impacts of computing on behavior and culture (e.g., evolution from hitchhiking to ridesharing apps, online accommodation rental services). * **WSCSLS-3A-I-1-27**: Demonstrate how computing enables new forms of experience, expression, communication, and collaborating. * **WSCSLS-3A-I-1-28**: Explain the impact of the digital divide (i.e., uneven access to computing, computing education, and interfaces) on access to critical information. * **CCSS.ELA-Literacy.CCRA.L.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 encountering an unknown term important to comprehension or expression. * **CCSS.ELA-Literacy.CCRA.R.2**: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas. * **CCSS.ELA-Literacy.CCRA.W.6**: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. | |
| Competencies: | Total Learning Hours for Unit: 7 |
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| Unit 2: Designing, Prototyping, and Playtesting | |
| COMPONENTS AND ASSESSMENTS | |
| **Performance Assessments:**  Demonstrate the ability to work on a team using an iterative design process to develop and playtest a paper prototype for a game that provides players an opportunity to explore an experience that may be unfamiliar to them. | |
| Leadership Alignment: | |
| Standards and Competencies | |
| Standard/Unit:   * **WSCSLS-3A-A-5-5**: Use user-centered research and design techniques (e.g., surveys, interviews) to create software solutions * **WSCSLS-3A-D-5-17**: Create computational models that simulate real-world systems (e.g., ecosystems, epidemics, spread of ideas). * **WSCSLS-3A-I-2-22**: Debate the social and economic implications associated with ethical and unethical computing practices (e.g., intellectual property rights, hacktivism, software piracy, diesel emissions testing scandal, new computers shipped with malware). * **WSCSLS-3A-I-7-25**: Describe how computation shares features with art and music by translating human intention into an artifact. * **WSCSLS-3A-I-1-26**: Compare and debate the positive and negative impacts of computing on behavior and culture (e.g., evolution from hitchhiking to ridesharing apps, online accommodation rental services). * **WSCSLS-3A-I-1-27**: Demonstrate how computing enables new forms of experience, expression, communication, and collaborating. | |
| Competencies: | Total Learning Hours for Unit: 19 |
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| Unit 3: Digital Prototyping | |
| COMPONENTS AND ASSESSMENTS | |
| **Performance Assessments:**  Using a prototyping toolkit, such as the Unity PlaygroundProject (<https://github.com/UnityTechnologies/PlaygroundProject>), collaborate with a small team to develop a paper game prototype into a playable digital prototype. | |
| Leadership Alignment:  Skills USA:  • Local Program Resource Guide (Current Edition)  • Connecting Career Development Event (Local, State, and National Level)  • Attendance at leadership specific events  • Made for Excellence  • Advanced Leadership Development  21st Century Skills:  Be Self-Directed Learners   * 8.8.1 Monitor, define, prioritize and complete tasks without direct oversight   Students will **use and manage information** and be **self-directed learners** while utilizing online videos and guides in learning about prototyping digital games. Students will **produce results** and **manage projects** while the design process to projects in this unit. | |
| Standards and Competencies | |
| Standard/Unit:   * **WSCSLS-3A-A-2-1**: Design and develop a software artifact working in a team. * **WSCSLS-3A-A-2-2**: Demonstrate how diverse collaborating impacts the design and development of software products (e.g., discussing real-world examples of products that have been improved through having a diverse design team or reflecting on their own team's development experience). * **WSCSLS-3A-A-4-8**: Deconstruct a complex problem into simpler parts using predefined constructs (e.g., functions and parameters and/or classes). * **WSCSLS-3A-A-3-11**: Explain and demonstrate how modeling and simulation can be used to explore natural phenomena (e.g., flocking behaviors, queueing, life cycles). * **WSCSLS-3A-C-5-14**: Create, extend, or modify existing programs to add new features and behaviors using different forms of inputs and outputs (e.g., inputs such as sensors, mouse clicks, data sets; outputs such as text, graphics, sounds). * **WSCSLS-3A-I-6-29**: Redesign user interfaces (e.g., webpages, mobile applications, animations) to be more inclusive, accessible, and minimizing the impact of the designer's inherent bias. | |
| Competencies: | Total Learning Hours for Unit: 14 |
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| Unit 4: Slow-Motion Collaborative Game Jam | |
| COMPONENTS AND ASSESSMENTS | |
| **Performance Assessments:**  Using a prototyping toolkit, such as the Unity PlaygroundProject (<https://github.com/UnityTechnologies/PlaygroundProject>), collaborate with a small team to develop a paper game prototype into a playable digital prototype. | |
| Leadership Alignment:  Skills USA:  • Local Program Resource Guide (Current Edition)  • Connecting Career Development Event (Local, State, and National Level)  • Attendance at leadership specific events  • Made for Excellence  • Advanced Leadership Development  21st Century Skills:  Be Self-Directed Learners   * 8.8.1 Monitor, define, prioritize and complete tasks without direct oversight   Students will **use and manage information** and be **self-directed learners** while utilizing online videos and guides in learning about prototyping digital games. Students will **produce results** and **manage projects** while the design process to projects in this unit. | |
| Standards and Competencies | |
| Standard/Unit:   * **WSCSLS-3A-A-2-1**: Design and develop a software artifact working in a team. * **WSCSLS-3A-A-2-2**: Demonstrate how diverse collaborating impacts the design and development of software products (e.g., discussing real-world examples of products that have been improved through having a diverse design team or reflecting on their own team's development experience). * **WSCSLS-3A-A-5-5**: Use user-centered research and design techniques (e.g., surveys, interviews) to create software solutions * **WSCSLS-3A-A-4-8**: Deconstruct a complex problem into simpler parts using predefined constructs (e.g., functions and parameters and/or classes). * **WSCSLS-3A-A-3-11**: Explain and demonstrate how modeling and simulation can be used to explore natural phenomena (e.g., flocking behaviors, queueing, life cycles). * **WSCSLS-3A-C-5-14**: Create, extend, or modify existing programs to add new features and behaviors using different forms of inputs and outputs (e.g., inputs such as sensors, mouse clicks, data sets; outputs such as text, graphics, sounds). * **WSCSLS-3A-D-5-17**: Create computational models that simulate real-world systems (e.g., ecosystems, epidemics, spread of ideas). * **WSCSLS-3A-I-2-22**: Debate the social and economic implications associated with ethical and unethical computing practices (e.g., intellectual property rights, hacktivism, software piracy, diesel emissions testing scandal, new computers shipped with malware). * **WSCSLS-3A-I-7-25**: Describe how computation shares features with art and music by translating human intention into an artifact. * **WSCSLS-3A-I-1-26**: Compare and debate the positive and negative impacts of computing on behavior and culture (e.g., evolution from hitchhiking to ridesharing apps, online accommodation rental services). * **WSCSLS-3A-I-1-27**: Demonstrate how computing enables new forms of experience, expression, communication, and collaborating. * **WSCSLS-3A-I-1-28**: Explain the impact of the digital divide (i.e., uneven access to computing, computing education, and interfaces) on access to critical information. | |
| Competencies: | Total Learning Hours for Unit: 10 |
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| Unit 5: Project Presentations | |
| COMPONENTS AND ASSESSMENTS | |
| Performance Assessments:   * Presentation of project. * Plan for project revisions based on peer feedback. * Feedback to peers on their projects. | |
| Leadership Alignment: | |
| Standards and Competencies | |
| Standard/Unit:  Present team’s project   * **WSCSLS-3A-A-5-5**: Use user-centered research and design techniques (e.g., surveys, interviews) to create software solutions * **WSCSLS-3A-I-7-25**: Describe how computation shares features with art and music by translating human intention into an artifact. * **WSCSLS-3A-I-1-26**: Compare and debate the positive and negative impacts of computing on behavior and culture (e.g., evolution from hitchhiking to ridesharing apps, online accommodation rental services). * **WSCSLS-3A-I-1-27**: Demonstrate how computing enables new forms of experience, expression, communication, and collaborating. | |
| Competencies: | Total Learning Hours for Unit: 3 |
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| **Aligned Washington State Standards** | |
| Arts |  |
| Computer Science | WSCSLS-3A-A-2-1, WSCSLS-3A-A-2-2, WSCSLS-3A-A-5-4, WSCSLS-3A-A-5-5, WSCSLS-3A-A-4-8, WSCSLS-3A-A-3-11, WSCSLS-3A-C-5-14  WSCSLS-3A-D-5-17, WSCSLS-3A-I-2-22, WSCSLS-3A-I-7-25, WSCSLS-3A-I-1-26, WSCSLS-3A-I-1-27, WSCSLS-3A-I-1-28 |
| Educational Technology | WSETS-1-EL  WSETS-2-DC  WSETS-3-KC  WSETS-4-ID  WSETS-5-CT  WSETS-6-CC  WSETS-7-GC |
| Health and Fitness |  |
| Language | CCSS.ELA-Literacy.CCRA.L.6 |
| Math |  |
| Reading | CCSS.ELA-Literacy.CCRA.R.2 |
| Science |  |
| Social Studies |  |
| Speaking and Listening | CCSS.ELA-Literacy.CCRA.SL.2 |
| Writing | CCSS.ELA-Literacy.CCRA.W.6, CCSS.ELA-Literacy.CCRA.W.7, CCSS.ELA-Literacy.CCRA.W.8, CCSS.ELA-Literacy.CCRA.W.10 |

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| **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 |