FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT

Computer Game Design

Board Approval Date: November 21, 2024	**Course Length: 2 Semesters**
Grading: A-F	**Credits: N/A**
Proposed Grade Level(s): 6,7,8	**Subject Area: Elective** **Elective Area (if applicable): Technology**
Prerequisite(s): N/A	**Corequisite(s): N/A**
CTE Sector/Pathway: Information and Communication Technology /Games and Simulation	
Intent to Pursue 'A-G' College Prep Status: (High School Courses Only) No	
A-G Course Identifier:	
Graduation Requirement: No	
Course Intent: **Program (if applicable):**	
The Folsom Cordova Unified School District prohibits discrimination, intimidation, harassment (including sexual harassment) or bullying based on a person's actual or perceived ancestry, color, disability, race or ethnicity, religion, gender, gender identity or gender expression, immigration status, national origin, sex, sexual orientation, or association with a person or group with one or more of these actual or perceived characteristics. For concerns/questions or complaints, contact the Title IX Coordinator(s), Equity Compliance Officer(s) and Section 504 Coordinator(s) : **Donald Ogden, Associate Superintendent – Human Resources, Title IX Coordinator (Employees) & Equity Compliance Officer** **dogden@fcusd.org** **916-294-9000 Ext 104410** **Jim Huber Ed. D., Assistant Superintendent – Educational Services, Title IX Coordinator (Students), Section 504 Coordinator & Equity Compliance Officer** **jhuber@fcusd.org** **916-294-9000 Ext 104625**	

COURSE DESCRIPTION:

This course is designed to be a completely "hands-on" introduction to the programming of computer games. Students in this course will create their own computer games while learning the basics of computer programming. Students will be encouraged to be self-motivated and work at their own pace. Students will have the opportunity to progress through increasingly complex computer programming languages while completing trimester long projects. This class is designed to help students prepare for, and excel in, future high school computer science courses. Furthermore, this class will integrate into the CTE Industry Sector of Information and Communication Technologies offered in high school.

DETAILED UNITS OF INSTRUCTION:

Unit Number/Title	Unit Essential Questions	Examples of Formative Assessments	Examples of Summative Assessment
1. Introduction to Programming	The goal of this unit is to familiarize students with the basic concepts behind computer programming that are universal to all programming languages.	*Students will start out using a simple, introductory programming language in order to learn basic programming concepts such as variables, input/output, decision loops, etc.	*Students will complete several short programming projects set up as games
2. Introduction to Game Design	Students will learn what makes a "good" game.	*Students will plan out and implement their first game	*students will complete a series of lessons: Terms and Concepts, Core Design Elements, Balance, Design, Testing and Refinement
3. Animation	Students will learn to create animation that can be used in a game or to tell a story.	*Plan out an animated scene. (a narrative, or "tell a story")	*Using skills learned in the class up to this point, students will program their scene as a 3D animation
4. Game Project	Students will tie together all the skills and concepts learned in the class to create a final game project of their choice.	*Students will go through all the stages of game design: ● Plan the game ● Make decisions on how to implement the game ● Code the game	*Students will go through all the stages of game design: ● Test their own and other students games ● Revise and refine their game ● Present their game
5. What is CTE?	What are the industry sectors and pathways in	*Research outlines and flow charts	*Career exploration research project to

	CTE? What careers are of interest and match my aptitudes? Why is it important to plan for high school, college and a future career? What skills and behaviors do employers expect?	*Research the Career Technical Student Organization (*CTSO*) SkillsUSA and identify middle school offerings and competitions	identify areas of interest, aptitudes, skills and education requirements using online resources (i.e., California Career Zone and CalCRN)
6. California's Career Technical Education - Industry Sector Standard	What is the Information and Communications Technologies industry sector? What is the sub-pathway - *Games and Simulation* about? What career opportunities are there locally and globally?	*Research outlines and flow charts *Research local and global job markets and college opportunities	*Deeper dive into a project about a career and skill sets needed for a particular area of the *Games and Simulation* career pathway

ESSENTIAL STANDARDS:

Reading: Key Ideas and Details:
CCSS.ELA-LITERACY.CCRA.R.1 – Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from text.

Integration of Knowledge and Ideas:
CCSS.ELA-LITERACY.CCRA.R.7 – Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
CCSS.ELA-LITERACY.CCRA.R.9 – Analyze how two or more texts address similar topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity:
CCSS.ELA-LITERACY.CCRA.W.1 – Read and comprehend complex informational texts independently and proficiently.

Writing: Text Types and Purposes:
CCSS.ELA-LITERACY.CCRA.W.1 – Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
CCSS.ELA-LITERACY.CCRA.W.2 – Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Production and Distribution of Writing:
CCSS.ELA-LITERACY.CCRA.W.4 – Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.CCRA.W.5 – Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
CCSS.ELA-LITERACY.CCRA.W.6 – Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. Research to Build and Present Knowledge: CCSS.ELA-LITERACY.CCRA.W.7 – Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation. CCSS.ELA-LITERACY.CCRA.W.8 – Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. CCSS.ELA-LITERACY.CCRA.W.9 – Draw evidence from informational texts to support analysis, reflection, and research.

Research to Build and Present Knowledge:
CCSS.ELA-LITERACY.CCRA.W.7 – Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation. CCSS.ELA-LITERACY.CCRA.W.8 – Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. CCSS.ELA-LITERACY.CCRA.W.9 – Draw evidence from informational texts to support analysis, reflection, and research.

Range of Writing:
CCSS.ELA-LITERACY.CCRA.W.10 – Write over extended time frames and shorter time frames for a range of tasks, purposes, and audiences.

Speaking and Listening:
Comprehension and Collaboration:
CCSS.ELA-LITERACY.CCRA.SL.1 – Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
CCSS.ELA-LITERACY.CCRA.SL.2 – Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. Presentation of Knowledge and Ideas: CCSS.ELA-LITERACY.CCRA.SL.4 – Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
CCSS.ELA-LITERACY.CCRA.SL.5 – Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Language:
Conventions of Standard English:
CCSS.ELA-LITERACY.CCRA.L.1 – Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.
CCSS.ELA-LITERACY.CCRA.L.2 – Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

Vocabulary Acquisition and Use:
CCSS.ELA-LITERACY.CCRA.L.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.
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.

Mathematics:
Domain 7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
Domain 7.EE.4 Use variables to represent quantities in a real-world or mathematical problem and construct simple equations and inequalities to solve problems by reasoning about the quantities.
Domain 7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
Domain 8.EE.7 Solve linear equations in one variable
Domain 8.F Define, evaluate, and compare functions.

RELEVANT STANDARDS AND FRAMEWORKS, CONTENT/PROGRAM SPECIFIC STANDARDS:

Link to Common Core Standards (if applicable):
Educational standards describe what students should know and be able to do in each subject in each grade. In California, the State Board of Education decides on the standards for all students, from kindergarten through high school.
SEE Essential Standards section

Link to Framework (if applicable):
Curriculum frameworks provide guidance for implementing the content standards adopted by the State Board of Education (SBE). Frameworks are developed by the Instructional Quality Commission, formerly known as the Curriculum Development and Supplemental Materials Commission, which also reviews and recommends textbooks and other instructional materials to be adopted by the SBE.

Link to Subject Area Content Standards (if applicable):
Content standards were designed to encourage the highest achievement of every student, by defining the knowledge, concepts, and skills that students should acquire at each grade level.
SEE Essential Standards section

Link to Program Content Area Standards (if applicable):
Program Content Area Standards apply to programs such as International Baccalaureate, Advanced Placement, Career and Technical Education, etc.

Link to Career Readiness Practice -Pages 18-19
Career Technical Education Model Curriculum Standards

Link to California Industry Sector Standards - Pages 18-20
Information and Communications Technologies https://www.cde.ca.gov/ci/ct/sf/documents/infocomtech.pdf

TEXTBOOKS AND RESOURCE MATERIALS:

Textbooks

Board Approved	Pilot Completion Date (If applicable)	Textbook Title	Author(s)	Publisher	Edition	Date

		N/A				