COLTON REDLANDS YUCAIPA
REGIONAL OCCUPATIONAL PROGRAM

2026-2027

Video Game Design 1

COURSE OUTLINE - UC

DESCRIPTION:

Video Game Design 1 is an introductory visual arts course where students explore the digital medium of gaming as a form of creative expression. This course provides students the opportunity to learn the principles of design and elements of art as they apply to 2D and 3D digital environments. This course provides students the opportunity to learn the principles of video game development and the hands-on application of gaming ideas. Students will study basic components of video games and its visual history, create original characters and worlds, analyze the aesthetic impact of various art styles, and create processes to produce an interactive video game for market. Activities in this course include formal art critiques, the development of a design portfolio, and the production of interactive digital art that communicates a specific narrative or theme and work-based learning that connects students to industry and the community.

INFORMATION:

PRE-REQUISITE:	Algebra (Recommended)
LENGTH:	One Year
SECTOR:	Arts, Media, and Entertainment
PATHWAY:	Game Design and Integration
ARTICULATED:	Yes
UC A-G APPROVAL:	Yes: Visual & Performing Arts (F) – Visual Arts Requirement

O*NET SOC CODES:

15-1132.00	Software Developers, Applications
15-1199.00	Video Game Designers
27-1014.00	Multi-Media Artists and Animators
27-1024.00	Graphic Designer

Video Game Design 1: Includes updates from 25/26 Advisory meeting.

Orientation

A. Introduce the course and facilities.
B. Discuss the syllabus and major objectives.
C. Explain applicable classroom management procedures, and any operational guidelines.
D. Review instructor/student expectations.
E. Explain attendance requirements and procedures.
F. Review grading and student evaluation procedures.
G. Discuss the work-based learning aspect of the program, if applicable.
H. Discuss the “next steps” related to additional education, training, and employment.
I. Review classroom safety, emergency and disaster procedures.

1. Communication Skills

A. Demonstrate positive verbal communication skills using appropriate vocabulary, demeanor, and vocal tone in the classroom and/or worksite.
B. Read and interpret written information and directions.
C. Practice various forms of written communication appropriate to the occupation.
D. Practice positive body language skills.
E. Practice professional verbal skills for resolving a conflict.
F. Demonstrate active listening skills including techniques for checking for understanding, and for obtaining clarification of directions.

2. Interpersonal Skills

A. Demonstrate positive teamwork skills by contributing to a group effort.
B. Practice the importance of diversity awareness and sensitivity in the workplace.
C. Define sexual harassment in the workplace and identify the employee’s role and responsibility.
D. Practice participation skills.
E. Identify different personality types and demonstrate flexibility and adaptability working with diverse individuals.
F. Practice business and social etiquette skills appropriate to the occupation.
G. Evaluate and discuss the role of business and personal ethics in decision making based on various job-related scenarios.
H. Demonstrate the use of time management skills.

3. Employability Skills

A. Demonstrate appropriate attendance and punctuality practices for the classroom (and worksite, if applicable).
B. Prepare a resume, cover letter, and job application.
C. Demonstrate interviewing techniques in seeking employment, using appropriate tone, body language and professional dress and grooming standards.
D. Identify strategies for employment retention.
E. Identify and analyze sources of job information, including electronic sources and the impact of social networking on employability.
F. Identify the need for continuing education, professional development, and professional growth in chosen field.
G. Identify appropriate procedures for leaving a job.
H. Review company policies and current trends in employee compatibility screening, drug screening, and background checks.

4. Leadership

A. Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
B. Work with peers to promote divergent and creative perspectives.
C. Demonstrate how to organize and structure work, individually and in teams, for effective performance and the attainment of goals.
D. Explain multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.
E. Employ ethical behaviors and actions that positively influence others.
F. Analyze the short-term and long-term effects a leader's actions and attitudes can have on productivity, morale, and organizational culture.

5. Personal and Occupational Safety

A. Demonstrate procedures to be followed in case of emergencies.
B. Describe and discuss the procedure for reporting a work-related hazard or injury (worker's comp), including ways to report a potential safety hazard to a supervisor.
C. Identify and discuss cyber ethics, cyber safety, and cyber security.
D. Apply personal safety practices to and from the job.
E. Recognize the effects of substance abuse in the workplace.
F. Explain the importance of CAL-OSHA in the industry.

6. Art History and Cultural Context of Video Games

A. Describe the history of the computer game industry.
B. Identify, list, and describe the different genres of video games.
C. Describe how advances in technology have affected video game development.
D. Identify and describe current trends in the video game industry.
E. Describe the history of games in general and their purpose.
F. Identify influential people, companies, laws, and games in the history of video games.
G. Describe the mechanics of gaming, which includes tracing genealogy of game systems.
H. Analyze the evolution of visual art styles in gaming, from early pixel art to modern hyper-realism.
I. Compare digital game aesthetics to traditional art movements (e.g., Surrealism, Minimalism, Expressionism).
J. Identify influential concept artists and art directors in the history of video games

7. Video Game Industry

A. Identify, list, and describe the roles of the different development team positions and how those roles relate to one another.
B. Describe the role of mods in video games.
C. Identify review methods and systems, both past and present, and how they affect game development and sales.
D. Identify bugs in video games and reasons why games with bugs are released to the public.
E. Describe the role of ethics, non-disclosure agreements, intellectual property, royalties, and copyright in the computer game industry.
F. Describe the roles of public relations and media in marketing.
G. Describe the roles of publishers, manufacturers, and distributors in video game sales.
H. Describe the economics of the video game industry.
I. Describe the advantages and disadvantages of the various avenues of game distribution.
J. Describe the role of game patches and downloadable content.
K. Identify, list, and describe the hardware and software commonly used within the video game industry.
L. Examine the advantages and challenges for women and minority employment in the video game industry.
M. Describe marketing and public relations in the game industry.
N. Describe the role of video game journalism and communities.
O. Define Artificial Intelligence (AI), Machine Learning (ML), and Generative AI within the context of the gaming industry, publishing, production and creative design.
P. Evaluate the ethical, legal, and intellectual property (IP) challenges posed by AI-generated content, specifically regarding copyright, and royalties.
Q. Discuss the future role of AI in game testing, bug detection, and quality assurance.

8. Artistic Perception and Design Theory

A. Describe the elements needed to create a game in each genre.
B. Apply the Elements of Art (line, color, shape, form, texture, space, value) to create game assets.
C. Apply the Principles of Design (balance, contrast, emphasis, movement, unity) to level and environmental design.
D. Describe how color theory and lighting are used to evoke specific player emotions or moods.
E. Identify and list the different demographics, geographics, and psychographics of video game players.
F. Identify common player control schemes in the different video game genres.
G. Identify, list, and describe the parts of the development cycle of a video game.
H. Analyze and create non-digital games.
I. Discuss player motivations in games.
J. Describe level design and environmental design.
K. Describe the role of brainstorming in game development.
L. Describe the role of documentation in the video game development process.
M. Describe the role of achievements and rewards in video games.
N. Describe emergence in video games.
O. Describe the roles of cooperation and competition in multiplayer video games.
P. Describe the challenges of creating realism in video games.
Q. Describe the role of reference material in game design.
R. Describe how prototyping is used in the game development process.
S. Compare and contrast linear and non-linear game progression and their advantages and disadvantages.
T. Describe the role of artificial intelligence in video game design.
U. Describe the roles of cheat codes and exploits in video games.
V. Describe the role of customization within games.
W. Discuss concepts of Deterministic vs. Non-Deterministic systems and Random vs. Predetermined.

9. Storytelling and Character Art Development

A. Describe the role that story plays in the different video game genres.
B. Describe the effect of plot, pacing and conflict on the game mechanics of a story-based game.
C. Create storyboards that demonstrate an understanding of cinematic composition and visual pacing.
D. Develop original character archetypes including visual backstory, motivation, and distinct silhouette design.
E. Design and create original 2D sprites and 3D models that reflect a consistent artistic style.
F. Write character dialogue.
G. Compare and contrast two dimensional and three-dimensional characters and their roles in video games.
H. Describe how story impacts player emotions.
I. Describe the role of supporting characters and non-player characters.
J. List and describe the different parts of the Hero’s Journey.
K. Develop a fictional character including backstory, motivation, and character traits.
L. Compare and contrast first person and third person characters and how that affects the story told in video games.
M. Describe the hero archetype.
N. Discuss choice, player agency and how players make the story their own.

O. Discuss games that have disrupted typical story telling.

10. The Art of Video Games

A. Describe the components of video game art as it relates to each genre.
B. Design and create a user interface.
C. Compare and contrast the roles of 2D and 3D animation including motion capture.
D. Describe the use of visuals in game design.
E. Compare and contrast the advantages and disadvantages of 2D and 3D art in video games.
F. Identify and list the different camera controls and angles in video games.
G. Describe the parts of a 3D model including vertices, lines, polygons, unwrapping, texture, and bones.
H. Describe the role of cinematics and cut scenes in video games.
I. Describe how color and lighting affects scenes in video games.
J. Describe the role of special effects in video games.
K. Create special effects.
L. Describe the elements of a game emphasized in the different genres of video games.
M. Create the art for a character archetype.
N. Create background art.
O. Create game assets.
P. Explore the application of AR and VR in the game space.
Q. Describe the process of reusing assets to speed up the game production process – kit bashing.
R. Defend artistic choices regarding the user interface (UI) and visual assets.
S. Analyze how the visual aesthetic of a game supports or disrupts player immersion.

11. Game Development Process

A. Create 2D sprites and 3D models for a video game.
B. Create a 2D game and environments.
C. Create a basic game design document.
D. Describe and identify the game development pipeline.
E. Create a video game level.
F. Create a design portfolio.
G. Create a flow chart for a game.
H. Write a pitch for a video game.
I. Create a video game prototype.
J. Create video game scripts.
K. Identify methods for publishing and marketing video games.
L. Compare and contrast the roles of the game design document and SCRUM/agile game development including their advantages and disadvantages.

M. Describe the entire video game process from beginning to release.

12. Portfolio

A. Create a professional digital portfolio reflecting employability skills in the relevant industry to include an “About Me” page.
B. Collect original works and documents that demonstrate technical skills and knowledge in the industry.
C. Demonstrate knowledge of competencies by accompanying each selected document or work with a journal entry or summary.
D. Write a brief resume and cover letter to be included in a portfolio.
E. Develop interviewing techniques using portfolio materials.
F. Display portfolio materials for critique by a professional panel (industry partners and classmates).
G. Gather feedback and update portfolio.

Key Assignments

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
1. Students will participate in mock interviews that represent current industry practices (e.g., skills demonstrations, resumes, applications, portfolios, personal websites, etc.).	1A-D, F 2D-F, H 3A-C, E, F, H 5C 6C, D, F, G 12A-G	1 2 3 4 5 6 9 10 11	2 3 4 5 6 9 10		LS 11-12.6 SLS 11-12.2
2. Students will design a new, non-digital prototype of a game and include a Concept Art Deck that defines the game's color palette, character designs, and environmental style before mechanics are built.	1A-C, F 2D, H 3A 4B-E 8E, N 9C 10O	1 2 5 8 9 10 11 12	2 5 8 9 10	D2.0	ETS1.A ETS1.C
3. Students will design and create a demo level video game. Each game must have an original visual aesthetic, be playable and goal oriented.	1A-C, F 2D, H 3A 4B-E 7D 8C, F 9C 10A, D, F, O 11A, B, E	1 2 4 5 9 10 11	2 4 5 8 9 10	D1.0 D3.0	ETS1.A ETS1.C

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
4. Students will design and create a functioning user interface, including start menus, game-over screens, and HUD. Students must document the creative style, principles of design, rationale and theory behind their decisions.	1A-C, F 2D, H 3A 4B-E 8A-T 10A, B, D, L 11A-M	1 2 4 5 7 8 10 11 12	2 4 5 7 8 10	D2.0	LS 11-12.2 RLST 11-12.7 ETS1.B
5. Students will research the elements that make a strong video game character. Students will develop and present an original fictional character including back story, motivation, and character traits.	1A-D, F 2D, H 3A 4B-E 6C 7F 9A, D, E, F, I 10M	1 2 4 8 9 10 11	2 4 8 9 10	D1.0	LS 11-12.1 LS 11-12.2 LS 11-12.3
6. Students will complete a GDD (game design document) and Visual Design Document (VDD), emphasizing the "Art Style", including mood boards and asset lists that includes story, characters, gameplay, art, sound and music, game controls, design (level/environment), game flow, user interface, media choices, and project timeline.	1A-C, F 2D, H 3A 4B-E 7A, K 8C, D, F-H, M 9A-C, E, G, I, J 10A-F, H, I, J 11C, D, G, L	1 2 4 8 9 10 11	2 4 8 9 10	D2.0 D6.0	LS 11-12.4 LS 11-12.6 WS 11-12.7 WHSST 11-12.4 ETS1.B
7. Following a completed GDD and VDD, students will develop the game as written.	1A-C, F 2D, H 3A	1 2 4	2 4 5	D3.0 D4.0 D6.0	RSIT 11-12.1 RLST 11-12.5 ETS1.C

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
	7A, D, K 8C, D, F, H, N 9B 10B, D-G, I-K 11A, B, D, E, I	5 7 10 11	7 10	D10.0	
8. Using another students' GDD and VDD, students will analyze the plausibility of the game, create the game, and defend any changes that were necessary.	1A - F 2D, H 3A 7A, D, K 8C, D, F, H, N 9B 10B, D-G, I-K 11A, B, D, E	1 2 4 5 7 9 10 11	2 4 5 7 9 10	D3.0 D4.0 D5.0 D6.0 D10.0	RLST 11-12.1 RLST 11-12.5 RLST 11-12.6 ETS1.C
9. Imitating industry practices, students will redesign a game based on random and unexpected directives made by the teacher.	1A-D 2D, H 3A 7A, D, K 8C, D, F, H, N 9B 10B, D-G, I-K 11A, B, D, E, I	1 2 4 5 9 10 11	2 4 5 9 10	D3.0 D4.0 D10.0	ETS1.A ETS1.B ETS1.C
10. Students will design and create a video game to a specific target audience (not for high school or young adult).	1A-C 2D, H 3A 7A, D, K 8A-T 9B 10B, D-G, I-K 11A, B, D, E, I	1 2 4 5 7 8 9 10	2 4 5 7 8 9 10	D1.0 D3.0 D4.0 D10.0	ETS1.A ETS1.B ETS1.C ETS2.B

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
		11 12			
11. Students will compare games, gaming print ads, and commercials from different time periods, identifying visual art style and industry advances over time. Students complete a quiz on historical gaming facts.	1A-D 2D, H 3A 4B-E 6A-G	1 2 4 5 8 9 10 11	2 4 5 8 9 10	D1.0	LS 11-12.1 LS 11-12.2 LS 11-12.3
12. In design teams, students will complete a video game utilizing all game design skills acquired during the course to be experienced by others at a school-wide event. Students final game must demonstrate aesthetic unity and reflection on their growth as a digital artist.	1A-F 2D, H 3A 4B-E 7A, D, F, K, M 8C, D, F, G, H 9A-M 10A-Q 11A-M	1 2 4 5 7 8 9 10 11 12	2 4 5 7 8 9 10	D1.0 D2.0 D3.0 D4.0 D5.0 D6.0 D10.0	ETS1.A ETS1.B ETS1.C ETS2.B

Standards Assessed in this Program

Career Ready Practices

1. **Apply appropriate technical skills and academic knowledge.**
2. **Communicate clearly, effectively, and with reason.**
3. **Develop an education and career plan aligned to personal goals.**
4. **Apply technology to enhance productivity.**
5. **Utilize critical thinking to make sense of problems and persevere in solving them.**
6. **Practice personal health and understand financial well-being.**
7. **Act as a responsible citizen in the workplace and the community.**
8. **Model integrity, ethical leadership, and effective management.**
9. **Work productively in teams while integrating cultural/global competence.**
10. **Demonstrate creativity and innovation.**
11. **Employ valid and reliable research strategies.**
12. **Understand the environmental, social, and economic impacts of decisions.**

Anchor Standards

2.0 Communications

- Acquire and use accurately sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

- Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

- Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the sector workplace environment.

5.0 Problem Solving and Critical Thinking

- Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

- Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the sector workplace environment.

7.0 Responsibility and Flexibility

- Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

- Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

- Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution.

10.0 Technical Knowledge and Skills

- Apply essential technical knowledge and skills common to all pathways in the sector following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

Arts, Media, and Entertainment - Game Design and Integration Pathway

D1.0 Demonstrate understanding of current trends and the historical significance of both electronic and nonelectronic games. Students will analyze different game systems and identify how these systems have influenced consumer technology.
D2.0 Analyze the core tasks and challenges of video game design and explore the methods used to create and sustain player immersion.
D3.0 Acquire and apply appropriate game programming concepts and skills to develop a playable video game.
D4.0 Students will demonstrate mastery of game art and multimedia, including music, sound, art, and animation.
D5.0 Demonstrate an understanding of testing techniques used to evaluate, assess, rate, and review quality assurance of video games.
D6.0 Understand the general procedures, documentation, and requirements of large scale game design projects. Examine and categorize the significant processes in the production of games.
D10.0 Students will build a game that demonstrates teamwork and project management by creating a game design production plan that describes the game play, outcomes, controls, rewards, interface, and artistic style of a video game.

Common Core State Standards

ENGLISH LANGUAGE ARTS

Language Standards

LS 11-12.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LS 11-12.2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LS 11-12.3: 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.
LS 11-12.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades *11-12 reading and content,* choosing flexibly from a range of strategies.
LS 11-12.6: Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the (career and college) readiness level, demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Reading Standards for Information

RSIT 11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

Reading Standards for Literacy in Science and Technical Subjects;

RLST 11-12.5: Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

RLST 11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

Speaking and Listening Standards

SLS 11-12.2: Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions, and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

SLS 9-10. 11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others ideas and expressing their own clearly and persuasively.

SLS 11-12.1d: Respond thoughtfully to diverse perspectives, synthesize comments, claims and evidence made on all sides of an issue, resolve contradictions when possible, and determine what additional information or research is required to deepen the investigation or complete the work.

Writing Standards

WS 11-12.6: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback including new arguments and information.

WS 11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

WHSST 11-12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate tot task, purpose, and audience.

MATHEMATICS

Engineering, Technology, and the Applications of Science

ETS1.A: Defining and Delimiting an Engineering Problem

ETS1.B: Developing Possible Solutions

ETS1.C: Optimizing the Design Solution

ETS2.B: Influence of Engineering, Technology, and Science on Society and the Natural World