Video Game Design II
Semester 1

Grade Level: 9–12
Credit: 0.5 (one semester)
Delivery: Online, Self-Paced, Competency-Based
Prerequisites: Video Game Design for Beginners or equivalent foundational experience

Course Description
Take your game development skills to new heights in Video Game Design II, the next step in your creative and technical journey. This intermediate-level course is designed for students who already understand basic game design principles and are ready to push their abilities into more sophisticated, real-world applications. Students will deepen their knowledge of game mechanics, programming, and storytelling by working with more advanced features such as simulated physics, branching storylines, non-linear level design, and user interface systems.

Throughout the course, learners will expand their ability to think like designers and developers. They'll build games with greater complexity, create immersive experiences with emotional and strategic depth, and focus on refining user experience through playtesting and iteration. Students will also explore game documentation, professional design standards, and optional collaboration skills that mimic real-world production pipelines. The capstone experience—a polished, multi-level, interactive game—will allow students to demonstrate creativity, technical fluency, and thoughtful design. Whether you're preparing for Game Design III, building a portfolio, or considering a career in the gaming industry, this course provides a powerful platform for advancement.

Learning Objectives
Students will:

- Apply object-oriented and event-driven programming concepts to develop game logic
- Build interactive levels with branching paths, player choices, and layered environments
- Design adaptive narratives that evolve based on player decisions
- Use animation and audio integration to enhance game immersion
- Construct user interfaces (menus, health bars, HUDs, inventories) that support gameplay
- Simulate realistic game physics, including object mass, gravity, and motion
- Refine games through structured testing, evaluation, and iterative design
- Collaborate with peers through critiques, playtests, and feedback exchanges
- Learn industry practices in version control, documentation, and usability design
- Explore introductory publishing concepts such as versioning, branding, and accessibility

Learning Outcomes

By the end of this course, students will be able to:

- Develop and code a fully functional video game using advanced mechanics and interactive storytelling
- Utilize conditional logic, variables, loops, and events to create dynamic gameplay
- Design levels that adapt to player behavior and offer multiple solutions or endings
- Apply visual and audio assets in ways that reinforce mood, pacing, and gameplay clarity
- Create intuitive, attractive, and responsive interfaces that improve the player experience
- Implement simple physics systems to enhance realism and interactivity
- Collect user feedback and apply it effectively to improve design quality and performance
- Maintain organized documentation and articulate design decisions with clarity and professionalism
- Publish or present a game suitable for public play, school showcases, or inclusion in a portfolio
- Demonstrate growth in both creative thinking and technical skills across all stages of the design process

Units & Pacing Guide

• Unit 1: Advanced Game Structure & Design Theory (1.5 weeks)
Explore core gameplay loops, user motivation, difficulty scaling, and engagement strategies. Learn how to structure levels and systems around balanced pacing and meaningful choice.

• Unit 2: Programming Logic II – Events, Variables, and Collisions (2 weeks)
Deepen your programming toolkit with conditional logic, timed events, user input triggers, state changes, object interactions, and basic AI behaviors.

• Unit 3: Game Physics & Environmental Interaction (1.5 weeks)
Simulate motion, gravity, bouncing, and collision dynamics. Learn how physics influence gameplay realism, and experiment with environmental effects such as water, platforms, and hazards.

• Unit 4: Story-Driven Gameplay and Branching Narratives (1.5 weeks)
Develop interactive stories using dialogue trees, plot forks, and player-driven decisions. Incorporate characters with goals, consequences, and emotion to deepen the narrative experience.

• Unit 5: Interface Design and Game Systems (1.5 weeks)
Learn the art and science of UI/UX. Create status indicators (health, score, timers), menus, inventory systems, pause screens, and heads-up displays that feel intuitive and polished.

• Unit 6: Testing, Feedback & Iteration (1 week)
Conduct structured playtests, evaluate peer feedback, identify bugs, and implement revisions. Learn the value of the design loop—prototype, test, revise, repeat.

• Unit 7: Final Game Project (2 weeks)
Plan, develop, and showcase a complete game featuring multi-level progression, advanced features, and polished design. Present your work with a developer's log and reflection.

Why Take This Course?

• Transform your ideas into fully developed, polished games with rich stories and immersive gameplay
• Gain real-world skills in logic, design, storytelling, problem-solving, and iteration
• Build a digital portfolio project that demonstrates creativity, strategy, and technical skill
• Develop the confidence to take on advanced courses in game design, programming, animation, or computer science
• Get a taste of what it's like to work in the game industry, and prepare for college, internships, or indie game development
• Learn how to create digital experiences that engage, inspire, and challenge players in meaningful ways

The course is a fully online, self-paced, competency-based program, and we're very proud of it!

Students only advance once they've demonstrated true mastery of each skill—no rushing, no guessing. This flexible structure not only supports individual learning styles and schedules but also empowers learners to take ownership of their progress, knowing exactly what they can do next.

Moreover, every module, assignment, and assessment is meticulously aligned with state standards and clear learning objectives, guaranteeing comprehensive coverage of essential knowledge and real-world skills students need to succeed. This isn't just online learning—it's purposeful, rigorous, and personalized, ensuring no student advances until they truly understand the material.