Video Game Design II
Semester 1

Grade Level: 10–12
Credit: 0.5 (one semester)
Delivery: Online, Self-Paced, Competency-Based
Prerequisites: Completion of Video Game Design I & II or equivalent experience

Course Description
Welcome to Video Game Design III, the ultimate challenge for student game developers ready to bring their skills into a near-professional realm. This advanced course is a deep dive into the creative, technical, and production sides of the game development pipeline. Students will work independently or in small teams to conceptualize, plan, and fully develop a multi-level, feature-rich game that could be included in a digital portfolio, submitted to a game jam, or pitched for publication.

Throughout the course, students will explore topics such as artificial intelligence (AI) behavior, particle effects, optimization techniques, advanced animation cycles, and audio design. They will create original design documentation, conduct UX research, and use iterative design thinking to refine their product. Emphasis is placed on teamwork, leadership, task planning, creative direction, and final product polish. This course simulates industry practice while encouraging innovation, expression, and mastery.

Learning Objectives

Students will:
- Develop an original, complex video game from concept to completion
- Create advanced systems such as enemy AI, inventory management, and save/load functionality
- Incorporate professional-level asset creation, including animation rigs, layered sound design, and atmospheric environments
- Use production planning tools (e.g., Gantt charts, sprints, task boards) to manage development workflow
- Write and maintain full game design documents (GDD), dev logs, and UX feedback reports
- Perform peer reviews and iterate based on usability testing and quality assurance protocols
- Develop branding elements such as game icons, splash screens, and promotional copy
- Prepare and deliver a polished game presentation suitable for a public audience or portfolio

Learning Outcomes

By the end of the course, students will be able to:
- Create and document a complete, professional-quality game concept
- Develop and code custom features using advanced logic and structured programming
- Design AI-driven characters and enemies with responsive behavior
- Optimize graphics, logic, and performance for smooth gameplay across platforms
- Apply audio layering, ambient effects, and musical scoring to reinforce gameplay dynamics
- Design and conduct user testing sessions and apply findings to enhance UX and flow
- Work collaboratively within a development team, managing timelines and responsibilities
- Present and pitch their completed game with professionalism, creativity, and clarity

Units & Pacing Guide

- Unit 1: Game Design Studio & Capstone Planning (1 week)

Form teams or establish solo capstone goals. Define genre, scope, audience, goals, and schedule. Begin early documentation of mechanics, story arcs, visual direction, and tech requirements.

• Unit 2: Advanced Programming & Systems Design (2 weeks)
Implement features like AI pathfinding, dynamic UI, save/load systems, multiple endings, or customizable characters. Deepen use of logic and object interaction with scalable code structures.

• Unit 3: Art, Animation, and Audio Systems (1.5 weeks)
Create or source custom art and audio assets. Use animation cycles, camera work, and layered sounds to build immersion. Apply transitions, effects, and polish to visual and sonic elements.

• Unit 4: UX Testing, Debugging & Optimization (1.5 weeks)
Conduct alpha and beta testing with peer and external users. Use logs, surveys, and recordings to track player interaction. Resolve bugs, improve usability, and optimize performance.

• Unit 5: Branding & Promotion (1 week)
Design game identity elements including logos, promotional screens, app icons, and web graphics. Write marketing-style summaries, pitch decks, and presentation materials.

• Unit 6: Final Game Launch & Showcase (2 weeks)
Finalize, package, and present your game in a public showcase, virtual gallery, or recorded pitch. Include a full walkthrough, demo reel, and personal reflection or team postmortem.

Why Take This Course?

- Lead the creation of a complete video game you can proudly share and showcase
- Learn how to build, manage, and deliver a project using industry-inspired workflows
- Develop leadership, creativity, and resilience while solving real design challenges
- Work toward building a college-ready portfolio or career-entry project
- Compete in student game design competitions or submit to local/national showcases
- Gain a practical foundation in project management, collaboration, and multimedia production
- Prepare for future opportunities in game development, computer science, digital media, or entrepreneurship

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.