

Video Game Design - Unit 1 - Good games

Unit Focus

The Video Game Design course introduces our students the overall scope of game design. Most jobs within this career fall into one of three pathways: Game Artist, Game Designer or Game Programmer.

In unit 1, students will focus on the second pathway (game designer) as they acquire several skills for conceptualizing a new video game. With the use of the design process cycle, students will learn how to create a game proposal that addresses the following important details:

- Plots and storylines
- Characters
- Maps, scenarios, and difficulties
- Methods for winning or losing the game
- User interface creation

The PBA will have students compose an original game story. Ideas as to how to solve world problems will be included in the story telling component (ex. energy conservation, recycling, rainforest depletion, hunger, educational literacy, etc). Students will learn how to develop characters as well as design characters.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer	
<p>Connecticut Goals and Standards <i>Pre-Engineering Technology: 12</i></p> <ul style="list-style-type: none"> • Describe and utilize the steps in the design process. <i>ENG.02.01</i> • Describe the steps of the design process (e.g. create. evaluate. synthesis. final solution. findings. and present.) <i>ENG.02.12</i> <p>ITEEA - Standards for Technological Literacy <i>Technological Literacy: K-12</i></p> <ul style="list-style-type: none"> • Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study. <i>3</i> • Students will develop an understanding of engineering design. <i>9</i> • Students will develop the abilities to apply the design process. <i>11</i> 	<p>T1 Explore and hone techniques, skills, methods, and processes to create and innovate T2 Develop a product/solution that adheres to key parameters (e.g., cost, timeline, restrictions, available resources and audience).</p>	
	Meaning	
	Understanding(s)	Essential Question(s)
<p>U1 Video game design involves creating an experience that is both functional and engaging for the user. U2 Successful video game design requires a thorough attention to the complex details within the elements of a good game: goals, decisions, immersion techniques, color, sound, relatable characters, genre, balance, rewards and flow. U3 Engineering design is a systematic process used to initiate and refine ideas, solve problems, and create new products and systems.</p>	<p>Q1 What makes a person want to play a game over and over again? Q2 How do I produce my idea within relevant constraints (e.g. budget, time)?</p>	

Stage 1: Desired Results - Key Understandings

<ul style="list-style-type: none"> Students will develop an understanding of and be able to select and use information and communication technologies. <i>17</i> <p>NGSS/NSTA Science & Engineering Practices <i>NGSS Science & Engineering Practices: 9-12</i></p> <ul style="list-style-type: none"> Ask questions to clarify and refine a model, an explanation, or an engineering problem. <i>SE.9-12.1.4</i> Ask questions that can be investigated within the scope of the school laboratory, research facilities, or field (e.g., outdoor environment) with available resources and, when appropriate, frame a hypothesis based on a model or theory. <i>SE.9-12.1.6</i> Define a design problem that involves the development of a process or system with interacting components and criteria and constraints that may include social, technical and/or environmental considerations. <i>SE.9-12.1.8</i> Design, evaluate, and/or refine a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations. <i>SE.9-12.6.5</i> <p>Student Growth and Development 21st Century Capacities Matrix</p> <p><i>Critical Thinking</i></p> <ul style="list-style-type: none"> Problem Identification: Students will be able to clarify the problem and pose significant questions for investigation. <i>MM.1.1</i> <p><i>Creative Thinking</i></p> <ul style="list-style-type: none"> Imagining: Students will be able to conceive of a novel approach to create a text, performance, solution, application, or inquiry. <i>MM.2.2</i> Design: Students will be able to engage in an appropriate process to refine their product. <i>MM.2.3</i> 	Acquisition of Knowledge and Skill	
	Knowledge	Skill(s)
	<p>K1 Vocabulary: Immersion, balance, flow, genre, landmarks, storyboards and edging.</p> <p>K2 Knowledge of your game audience is essential in game design.</p> <p>K3 Colors and sounds elicit emotions that can draw a player into the game environment.</p> <p>K4 Elements of a "good game" (goals, decisions to be made, immersion techniques, color, sound, relatable characters, genres, game mechanics, balance, rewards and flow).</p> <p>K5 Necessary components of a game (Story, game world, main characters, music and sound effects).</p> <p>K6 The Engineering Design Cycle involves Discovery, Design, Develop and Delivery.</p> <p>K7 The 4 skills players possess (social fabric, blissful productivity, epic meaning and urgent optimism).</p>	<p>S1 Evaluate the elements of a video game.</p> <p>S2 Leverage color palettes, sounds, edging, and landmarks to create powerful, realistic worlds that draw in players.</p> <p>S3 Design a game that includes the elements of a good game and fulfills the needs and wants of a specific target audience.</p> <p>S4 Utilize the Engineering Design Process to develop a solution to a given challenge/problem.</p>