

2012/2013 DoDEA Student Competency Record
Gaming Technology I
CTI 401 - 18 weeks

Student	School Year
Grade	Term (fall, spring)
School	Teacher Signature

Major Concepts/Content: The Gaming Technology I course teaches high school students the concepts and requirements for intermediate development of computer games. Students progress at their own pace while studying and performing tasks independently and in small groups. Lessons are delivered in an atmosphere of differentiated learning using hands-on activities. Learning is supplemented with demonstrations, lectures, and guest visits which supplement the concepts and application of gaming technologies. Students will gain first-hand knowledge by creating games that tie directly to the industry. Students will be introduced to and evaluated on all thirteen (13) DoDEA workplace readiness skills as they progress through this class.

Major Instructional Activities: Within the parameters of this course student will be working in a cross curricular environment; performing and fine arts, computer programming, science, math, interactive multimedia, animation, technical writing, and audio engineering. Student centered learning will include problem solving, critical thinking, research, cooperative learning, through project based learning activities. It allows individual and group designed projects, software skill development, and culminates with a capstone project. The capstone project will be designed to simulate the industry work place by requiring the students to work in a team with a client and design a real world project. The content of these two courses will support STEM and Work Place Readiness Skills.

Major Evaluative Techniques: Students will demonstrate their knowledge through tests, hands-on demonstrations, technical reports, and projects.

CTI 401 18 weeks	Gaming Technology I TASKS/COMPETENCIES	
Implement DoDEA's CTE Course Requirements		
• 001	Demonstrate DoDEA's Workplace Readiness Skills in course activities.	
• 002	Student will discuss and sign a computer usage agreement.	
• 003	Students will demonstrate appropriate behaviors and safe practices in a computer lab.	

• 004	Identify Internet safety issues and procedures for complying with acceptable use standards.
Fundamentals of the computer game industry	
• 005	Student will Apply STEM to real world gaming scenarios.
• 006	Student will create file/porfolio structure.
• 007	Student will explain the history of the gaming technology and its impact on society.
• 008	Student will identify issues relating to this field of study that affect the individual, society, and local and global communities.
• 009	Student will identify the social and ethical impact of gaming technology.
• 010	Student will Identify key principles in gaming industry.
Introduction to computer game design, game engines, and graphical user interface (GUI)	
• 011	Student will successfully identify computer requirements for game engine software.
• 012	Students will identify and differentiate between different types of game engines and the types of games created using that engine, different types of game platforms
• 013	Students will demonstrate the understanding of the game engine interfaces and menus to be used in their project.
• 014	Students will create and maintain file structures used throughout the game production process
Basic skills in order to develop a computer game	
• 015	Student will create Objects and demonstrate ho to apply Materials and Textures.
• 016	Student will explain how Objects, Collisions, and Actions interact within the game environment.
• 017	Student will create Collisions and Actions and apply them to an Object.
• 018	Student will explain how Objects, Collisions, and Actions interact within the game environment.
• 019	Student will create Animations within the parameters of the game engine
• 020	Student will explain how Animations interact within the game environment.
Introduction to Audio	
• 021	Student will learn to insert Audio (e.g. sounds and music) in their project.
• 022	Student will explain how Audio (e.g. sounds and music) affect their project.
Introduction to Expressions and Variables (Expressions and variables are scripting tools within the game engine that are similar to computer programming languages like C-lite and C++.)	
• 023	Student will explain how Expressions and Variables interact within the game environment.

• 024	Student will demonstrate the use of Expressions and Variables within a computer game.
• 025	Student will create Expressions and Variables within the parameters of the game engine to be used in their project.
Pre-production skills	
• 026	Students will create a game story to be used in a project.
• 027	Students will develop characters to be used in a game.
• 028	Students will develop a storyboard to be used in a game.
• 029	Students will develop rules and regulations to be used in a game.
• 030	Students will develop navigation process to be used in a game.
• 031	Students will develop world environment to be used in a game.
Production skills	
• 032	Students will create a computer game using all pre-production elements and design features.
Post-production skills	
• 033	Students will use peer to peer critique form to identify/recommend changes.
• 034	Students will modify/address recommendations provided by peer critique form.
Introduction to Distribution of Game	
• 035	Students will identify their target audience.
• 036	Students will identify how the game will be distributed.
• 037	Students will create an advertisement campaign for game distribution.
• 038	Students will identify the online gaming market that supports their product.