GC/GV-PTI### - Gaming Technology I
DoDEA Career and Technical Education
COURSE SYLLABUS

I. COURSE NUMBER AND TITLE: PTI ###, **Gaming Technology I**

II. CREDIT: 18 Weeks

III. PREPARATION: Students enrolling in this course must be enrolled in grades 9-12. No prerequisite is required for this course.

IV. COURSE DESCRIPTION: The Gaming Technology course teaches 9th through 12th grade students the concepts and requirements for the 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.

This course is a hand on course. Most test and/or evaluations will be derived from the rubrics being used on the daily/weekly activities that happen in class.

V. COURSE OBJECTIVES:

Upon completion of this course, students will:

1. Knowledge
   a. Understand the basic principles of how a computer game functions
   b. Understand the basic principles of computer gaming
   c. Understand the basic principles of story boarding
   d. Understand the basic principles of ethics and professionalism in today's computerized gaming industry
2. Skills
   a. Identify all major components of a computer game and their functions.
   b. Demonstrate their competency by building a computer game using Blender.
   c. DoDEA workplace readiness skills (13).
3. Abilities and Values
   a. Developed soft skills required for computer gaming design technicians.
   b. Exposure to moral and ethical values for the computer business work place.
   c. Essential abilities and values from the DoDEA readiness skills emphasis; basic reading, math, writing and communications skills as well as problem solving, computer literacy, work ethics, attendance, positive attitude and participation as a team member.

VI. COURSE OUTLINE

1. Set expectations for student success:
   a. History of the gaming industry
   b. Principals require for game development
   c. Social and ethical impact of the computer game industry
2. Fundamentals of the computer game industry
   a. Introduction to Computer Usage, Safety, and DoDEA Work Place Readiness Skills
   b. Computer rules
   c. Computer lab safety
   d. DoDEA Work Place Readiness Skills
3. Introduction to computer game design
   a. Computer requirements
   b. Gaming Engines
   c. Types of games
      i. FPS
      ii. RPG

iii. Platform
iv. Racing
v. Design Elements

4. Design processes and first game development / pre-production
   a. First game identification
   b. Pre-production process for their first game
      i. Terminology
      ii. Storyboards
      iii. Concepts
5. Introduction to computer game engines
   a. File structures
   b. Modeling
   c. Scene Development
6. Introduction to Objects
   a. Gain understanding of an object
   b. Utilize an object in a game
7. Introduction utilization of sprites and events
   a. Gain understanding of sprites
   b. Utilize sprites in a game.
   c. Gain understanding of events
   d. Utilize events in a game
8. Introduction to post production processes
   a. Critique techniques on games
   b. Peer to peer working
   c. Updating process of a game
9. Pre-production on Final Project
   a. Discussion of intermediate level game requirements
10. Introduction to actions
    a. Gain understanding of actions
    b. Utilize actions in a game.
11. Introduction to crating instances
    a. Gain understanding of instances
    b. Utilize instances in a game.
12. Introduction to Backgrounds and rooms
    a. Gain understanding of backgrounds
    b. Utilize backgrounds in a game.
    c. Gain understanding of rooms
    d. Utilize rooms in a game
13. Expressions and variables
    a. Gain understanding of expressions
    b. Utilize expressions in a game.
    c. Gain understanding of variables
    d. Utilize variables in a game
14. Introduction to sound and music
    a. Gain understanding of sound
    b. Utilize sound in a game.
    c. Gain understanding of music
    d. Utilize music in a game
15. Distributing your game
    a. Marketing your game

VII. REQUIRED RESOURCES:

1. Autodesk Animation Academy 2010
2. Blender (Game engine)
3. Python (Code Structure)
4. Torque (Game engine)
5. Teacher professional development/training
6. Student tutorial guide (Blender)
7. Teacher instructional guide (Blender)

VIII. PREPARED: September 27, 2010

DoDEA – Career and Technical Education
Gaming Technology I
Course - Scope and Sequence
GC/GV-PTI

Competency Area	Duration	Major Understanding	Activities / Assessments
Quarter One			
Set Expectations for Student Success	.5 weeks	Students will demonstrate an understanding of the expectations for successful completion of Gaming Technology course. Students will understand the history, principals, social impact, and fundamentals of gaming technology.	Pre-Test Exercises/Activities Lectures/Discussions/Demonstrations
Fundamentals of the computer game industry	.5 weeks	Students will demonstrate safe behavior and practices in a computer laboratory environment. Will gain familiarization to the DoDEA Workplace Readiness Skills *Should be integrated throughout curriculum	Exercises Lectures/Discussions/Demonstrations Post-Test/Project Evaluation Student Competency Record-Workplace Readiness Skills
Introduction to Computer Game Design	1 weeks	Student will demonstrate fundamental understanding of computer requirements, types of computer engines and types of games, and game design elements.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Design Process & First Game Development / Pre-production	1 week	Students will demonstrate the design process with the development of their first game. They will discuss and understand the pre-production process to include storyboards and common terminology used in the gaming industry. Students will be given their first project, consisting of an introductory level game.	Lectures/Discussions/Demonstrations Exercises/Activities Group Activities Post-Test/Project Evaluation
Introduction to Computer Game Engines	3 week	Students will demonstrate use of the interface, proper use of file structures, modeling, scene development, that will be used throughout the game development process.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to Objects	1.5 weeks	Students will demonstrate what an object is and how it interacts within the game development	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test
Introduction Utilization of Sprites and Events	1.5 week	Students will demonstrate proper creation of sprites and events in the development of a personal game. *Should be integrated throughout curriculum	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation

Quarter Two			
Introduction to Post-production Process	1 week	Students will review and critique other student's games, providing peer to peer feedback which will be used to correct/modify their first game developed	Peer to peer
Pre-production for Final Project	.5 weeks	Students will be given their second computer game design project consisting of an intermediate level game. This game project will require higher level thinking skills and a deeper understanding of the game engine.	Final Project Evaluation Rubric
Introduction of Actions	2 weeks	Students will demonstrate the use of actions and how they relate to game development.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to Creating Instances	1.5 weeks	Students will demonstrate the utilization of instances throughout the production process. Students will be introduced to their final project requirements.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to backgrounds, creating rooms	1 week	Student s will demonstrate proper utilization of backgrounds and room creations in their final project.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to Expressions and Variables	1 week	Students will demonstrate the proper utilization of expressions and variables in their final project.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to Sounds and Music	1 week	Student s will demonstrate proper utilization of sounds and music in their final project.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test/Project Evaluation
Introduction to Distribution of Game	1 week	Students will demonstrate knowledge of the business aspect of the marketing and distribution of the gaming industry.	Lectures/Discussions/Demonstrations Exercises/Activities Post-Test