# Game Design & Authoring the Web Course No. 10165 Credit: 1.0

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| **Student name:**  |  | **Graduation Date:** |  |

Pathways and CIP Codes:Web & Digital Communications (11.1004)

Course Description: **Application Level:** Game technologies represent the culmination of logic, sequence, tool utilization, and extension of skill. Programming process for this course will utilize all previously learned factors of programming logic, artistry, and interactivity.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Click or tap here to enter text.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Summarize the process of IT product/service design. |  |
| 1.2 | Plan for products/services using reliability factors. |  |
| 1.3 | Create products/services using reliability factors. |  |
| 1.4 | Test new products/services for reliability. |  |
| 1.5 | Maintain the reliability of new products/services. |  |
| 1.6 | Identify input and output requirements |  |
| 1.7 | Identify system processing requirements |  |
| 1.8 | Define scope of work to meet customer needs |  |
| 1.9 | Demonstrate knowledge of the key functions and subsystems of the software product |  |
| 1.10 | Demonstrate knowledge of cross- functional team structures and team members’ roles. |  |
| 1.11 | Assess the importance of new technology to future developments. |  |
| 1.12 | Identify data communication trends and major current issues. |  |
| 1.13 | Identify new technologies relevant to information technology. |  |
| 1.14 | Identify system processing requirements. |  |
| 1.15 | Determine compatibility of hardware and software. |  |
| 1.16 | Identify new and emerging classes of software. |  |
| 1.17 | Identify the elements of the information processing cycle(i.e., input, process, output, storage) |  |
| 1.18 | Demonstrate knowledge of software development environment. |  |
| 1.19 | Develop programs using appropriate language. |  |
| 1.20 | Demonstrate knowledge of the information system life cycle. |  |
| 1.21 | Demonstrate knowledge of the concepts of data and procedural representations. |  |
| 1.22 | Demonstrate knowledge of key constructs and commands specific to a language |  |
| 1.23 | Demonstrate knowledge of how programming control structures are used to verify correctness. |  |
| 1.24 | Demonstrate Understanding of Gaming Framework Basics: Creating 3D objects and Handling input to move our camera.  |  |
| 1.25 | Utilize Content Pipeline: Loading & Texturizing 3D Objects, Sound and Music, and Extending the content pipeline. |  |
| 1.26 | Demonstrate usage of 2D Objects and Effects: 2D Basics, 2D Effects, and Creating a 2D game. |  |
| 1.27 | Program Handheld Devices (or simulated environment): Programming for the Handheld and Running the game on the handheld. |  |
| 1.28 | Utilize High Level Shader Language: HLSL Basics and Advanced HLSL. |  |
| 1.29 | Utilize Physics and Artificial Intelligence: Physics Basics, Finite State Machines & Game State Management, and AI Algorithms. |  |
| 1.30 | Utilize 3D Effects: Advanced Texturing Techniques, Special Effects & Particle System. |  |
| 1.31 | Demonstrate Successful Debugging: Creating a 3D Game, Improving the Game and Finishing Touches. |  |
| 1.32 | Demonstrate Understanding of Networking Framework: Networking Basics, Creating Multiplayer Demos, Creating a Networking Game Skeleton, Creating a Turn-based Multiplayer Game, and Creating a Real-time Multiplayer Game. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

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