COURSE DESCRIPTION:
This is the first of the two Electronic Game & Simulation Design capstone courses. Students will work in teams to design a game using industry standard tools and procedures. The design of levels, characters, stories, game mechanics, user interfaces, and puzzles will be explored in depth along with techniques for usability and quality assurance testing. Students will be required to prototype and test small segments of their game to prove the viability of their design. All materials produced in this class will be used as the basis for developing a complete and functional game in CIS 277 - Game Production Studio.

PREREQUISITE(S):
CIS 276 – Game & Simulation Programming Foundations
(as a Prerequisite or Co-Requisite)

CO-REQUISITE(S):
CIS 276 - Game & Simulation Programming Foundations
(as a Co-Requisite or Prerequisite)

Upon successful completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>LEARNING OUTCOMES</th>
<th>LEARNING ACTIVITIES</th>
<th>EVALUATION METHODS</th>
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<tbody>
<tr>
<td>1. Demonstrate a working knowledge of project management.</td>
<td>Assigned Reading Lecture Discussion Hands-On Lab Exercises Homework Assignments Group Projects Projects</td>
<td>Game Development Projects Final Project</td>
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<tr>
<td>2. Display an understanding of level, character, story, puzzle, and game play design.</td>
<td>Assigned Reading Lecture Discussion Hands-On Lab Exercises Homework Assignments Group Projects Projects</td>
<td>Game Development Projects Final Project</td>
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### LEARNING OUTCOMES

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<tr>
<th>3. Explain the roles of each member of a game development team.</th>
<th>Assigned Reading, Lecture, Discussion, Hands-On Lab Exercises, Homework Assignments, Group Projects, Projects</th>
<th>Game Development Projects, Final Project</th>
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<th>4. Demonstrate a working knowledge of usability testing, quality assurance testing, and prototyping by developing a game prototype and performing the aforementioned tests.</th>
<th>Assigned Reading, Lecture, Discussion, Hands-On Lab Exercises, Homework Assignments, Group Projects, Projects</th>
<th>Game Development Projects, Final Project</th>
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| 5. Demonstrate a working knowledge of game design/simulation and the modern game development process by designing an electronic game/simulation. | Assigned Reading, Lecture, Discussion, Hands-On Lab Exercises, Homework Assignments, Group Projects, Projects | Game Development Projects, Final Project |

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that **70% of students will meet or exceed outcome criteria.**

### SEQUENCE OF TOPICS:

1. Overview of the Game Design Process and Team
2. Introduction to Basic Project Management Concepts and Tools
3. Story Design
4. Character Design
5. Level and Puzzle Design – Tools & Theory
6. Sound and Visual Design
7. Storyboarding
8. Prototyping – Tools and Theory
9. User Interface Design and Game Mechanics
10. Discount Usability Testing
11. Quality Assurance Testing (a.k.a. Game Testing)
12. Advanced Game Design and Development Tools
LEARNING MATERIALS:

Other learning materials may be required and made available directly to the student and/or via the College’s Libraries and/or course management system.

COURSE APPROVAL:
Prepared by: Jason Wertz Date: 8/2004
Revised by: Jason Wertz Date: 3/2005
Revised by: Jason Wertz Date: 7/25/2013
VPAA/Provost or designee Compliance Verification: Date: 7/29/2013

This course is consistent with Montgomery County Community College’s mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.