

Montgomery County Community College
 CIS 276
 Game & Simulation Programming Foundations
 3-2-2

COURSE DESCRIPTION:

This course introduces students to the necessary mathematical techniques and physical modeling principles for electronic game and simulation development. Students will learn mathematical tools underlying the development of gaming software algorithms. They will use a range of software products to implement these algorithms and modeling methods.

REQUISITES:*Previous Course Requirements*

CIS 111B Computer Science II: Object-Oriented Programming, with a minimum grade of "C"

Concurrent Course Requirements

None

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
Upon successful completion of this course, the student will be able to: <ol style="list-style-type: none"> 1. Apply geometric principles to achieve translations, rotation, and scaling of objects in 2 and 3 dimensional spaces. 	Assigned Readings Lecture Discussion Hands-	

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
4. Demonstrate the ability to mathematically model 2d and 3d kinematics with systems involving reflections, linear motion in constant gravity fields, and inelastic collisions.	Assigned Readings Lecture Discussion Hands-On Lab Exercises Homework Assignments Projects Quizzes/Exams	Game Development Projects Final Project
5. Demonstrate the ability to use mathematical tools in a rapid software development environment (such as a game engine) by developing gaming scenes and interactions.	Assigned Readings Lecture Discussion Hands-On Lab Exercises Homework Assignments Projects Quizzes/Exams	Game Development Projects Final Project
6. Explain the fundamentals of video hardware design and how e824 470.11 157.94		

