

# Hagerstown Community College Master Syllabus SDE 104: Game Programming and Development I

## Course Information:

SDE 104 Game Programming and Development I  
3 Credits  
Online  
Spring 2019

## Instructor Information:

## Course Description:

This course takes previous programming experience and uses it in a game development environment. An emphasis on simulation and game application; includes use of computers for learning games; event driven programming concepts; game hardware integration, game mechanics, usability and algorithm development. This course will also look into game creation and the challenges that it presents to design and development. Uses a game engine, like UDK, Source or Unity, to demonstrate the application of programming into a game environment. Some programming experience is suggested. Course fee required. Corequisite: CSC 102 or IC3 certification.

## Textbooks:

Hocking, Joseph. *Unity in Action*. Shelter Island: Manning, 2018.  
Rogers, Scott. *Level Up! The Guide to Great Video Game Design, 2nd Edition*. West Sussex: John Wiley and Sons, 2014.

## Student Learning Outcomes and Course Content Objectives:

- Demonstrate problem solving skills through verbal and written media
- Apply principles of video game design and issues designers face in game creation
- Define variables, functions and random events
- Create narrative environments, stories and characters associated with games
- Define game genres, and the differences between them, with reference to creating each
- Demonstrate game balancing
- Demonstrate fundamentals of gaming and simulation design in the stages of concept and development
- Work productively in a team environment
- Adeptly simulate in 2 dimensions and 3 dimensions
- Analyze, select and apply tools appropriate for a specific solution
- Logically formulate scripts and/or programs to solve problems
- Understand and articulate interactivity in the gaming industry, including the connectivity between computer art and programming
- Apply programming theory in practical applications

- Demonstrate problem solving skills through verbal and written media
- Apply rudimentary Physics and Trigonometry principles

**Definition of Credit Hour:**

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit.

For most classes, students should expect to do at least 2 hours of coursework outside of class for each hour of in-class coursework.

	DIRECT Faculty Instruction In-class	Student Work Out of Classroom
Tests (Study)	15	40
Assignments	15	10
Projects	15	40
<b>Total Hours</b>	<b>45 h</b>	<b>90 h</b>

**Services for Students with Disabilities:** Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at [dss@hagerstowncc.edu](mailto:dss@hagerstowncc.edu) or at 240-500-2530.