

Pellissippi State Community College  
Master Syllabus

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**GAME & 3D SIMULATION PROGRAMMING**  
**CSIT 2670**

Class Hours: 3.0  
Laboratory Hours: 3.0  
Credit Hours: 4.0  
Revised: March 31, 2011

Instructor:  
Office No.:  
Phone No.:  
Email:

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**Catalog Course Description:**

Students will apply programming concepts and skills for simulation and game-based product development using a selected programming language or commercial development tool. Students will use a professional-level game programming/scripting development product set to create user-based simulation and game end-products.

**Entry Level Standards:**

Students will need a home computer with enhanced graphics video and high-speed internet access or use of open lab systems beyond the class meetings and scheduled lab times. Students must be able to read, write, speak and reason at the college level.

**Prerequisites:** At least one programming course.

**Textbook and Other Reference Materials:**

**Unity User's Manual and Scripting Reference Book**, <http://unity3d.com/documentation>. Extensive online tutorials, handouts, in-class presentations and virtual world resources will be provided.

**I. Week/Unit/Topic Basis:**

Week	Topic(s)
1	Introduction to Game Design and Programming Concepts. Lab Assignment
2	Introduction to Simulators and various 3D environments. Lab Assignment
3	Introduction to Virtual Reality. Lab Assignment
4	Introduction to Unity product development. Lab Assignment
5	Project 1 Virtual Reality Environmental Creation
6	Project 2 Virtual Reality Product Simulation
7	Project 3 Team 2D Game Creation and Testing
8	Mid-term test
9	Project 4 Team 3D Game Creation and Testing
10	Project 5 Team Simulation Development
11	Project 5 Team Simulation Testing
12	Project 6 Individual Project Design
13	Project 6 Individual Project Development
14	Project 6 Individual Project Testing. Product Delivery.
15	Final Exam Period

## II. Course Goals:

The course will

- A. Provide comprehensive understanding and use of the Unity product tool set. I, II, III, IV, XI
- B. Guide the student to understand product development using simulation and game development programming, tools and techniques. I, II, III, IV, XI
- C. Guide the student to understand game theory when applied to programming and scripting of simulation and game development. I, II, III, V, IX, XI, XII
- D. Guide the student to be able to use the proper syntax, code structure, structured design and object coding to complete working models in team and individual projects.. I, III, X, XI
- E. Assist students to be able to generate all required working elements for a simulation. V, VI, VII, IX, XI, XII
- F. Assist students to be able to generate all required working elements for a game. V, VI, VII, IX, XI, XII

## III. Expected Student Learning Outcomes:

Students will be able to

- 1. Demonstrate knowledge of game and simulation development. (A, F, G)
- 2. Demonstrate mastery of the development tools being used. (A, B, C, D, E, F)
- 3. Utilize 2D/3D development programming tools. (B, D, E)
- 4. Generate working code that will demonstrate game play and simulated real-world actions and outcomes. (B, C, D, E, F, G)
- 5. Use software and online tutorial resources. (B, C, D, E, F, G)
- 6. Create computer programs that utilize correct methodologies. (B, C, D, G, E)
- 7. Create computer controlled (scripted) objects in a 3D virtual environment. (B, C, D, G, E)
- 8. Design, build and demonstrate functional products. (A, B, C, D, F)

## IV. Evaluation:

- A. Testing Procedures: 25% of grade  
Students are evaluated primarily on the basis of tests and laboratory assignments. Each instructor must provide full details via a syllabus supplement.
- B. Laboratory Expectations: 75% of grade
- C. Field Work: N/A
- D. Other Evaluation Methods:  
This information, if applicable, will be provided by the instructor in a supplement to the course syllabus.

E. Grading Scale:	
92 - 100	A
89 - 91	B+
82 - 88	B
79 - 81	C+
72 - 78	C
65 - 71	D
Below 65	F

**V. Policies:**

**A. Attendance Policy:**

Pellissippi State Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. (*Pellissippi State Online Catalog*)

**B. Academic Dishonesty:**

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course. (*Pellissippi State Online Catalog*)

**C. Accommodation for Disabilities:**

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at [www.pstcc.edu/departments/swd/](http://www.pstcc.edu/departments/swd/).

**D. Extended College Closure:**

Pellissippi State Community College is committed to the educational process and student learning. In the event of a prolonged college closure (of at least a week), the educational process will continue through the use of the college's on-line learning environment (Desire2Learn). The instructor will post instructions, specific assignments, due dates, etc. in Desire2Learn (D2L). It is the student's responsibility to login to D2L and check posted instructions and assignments.