GAME & 3D SIMULATION PROGRAMMING
CSIT 2240

Class Hours: 2.0
Laboratory Hours: 2.0
Credit Hours: 3.0
Revised: Fall 2012

Instructor: 
Office No.: 
Phone No.: 

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: CSIT 1520

Textbook and Other Reference Materials:

I. Week/Unit/Topic Basis:

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

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 expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

B. Academic Dishonesty:
Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one’s own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

C. Computer Usage Guidelines:
College-owned or -operated computing resources are provided for use students of Pellissippi State Community College. All students are responsible for the use of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner. It is each individual user's responsibility to abide by the policy available at www.pstcc.edu/ppm/pdf/08-13-05.pdf
D. 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 http://www.pstcc.edu/sswd/.

E. 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.