PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS
GAME & 3D SIMULATION PROGRAMMING II
CSIT 2670

Class Hours: 3.0
Credit Hours: 4.0
Laboratory Hours: 3.0
Revised: Fall 09

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 1670 or one programming course.

Textbook(s) and Other Course Materials:


Suggested Optional Supplementals:
Web site material will be used to supplement this course.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Intro to game and simulation development, plan and time management</td>
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<tr>
<td>2-5</td>
<td>Coding, scripting, language syntax, constraints, functions and controls</td>
</tr>
<tr>
<td>6-9</td>
<td>Simulation generation product completion</td>
</tr>
<tr>
<td>10-14</td>
<td>Game generation product completion</td>
</tr>
<tr>
<td>15</td>
<td>Final comprehensive test / project / product completion</td>
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</table>

II. Course Objectives*:
A. Demonstrate comprehensive understanding and use of the Unity product tool set. I, II, III, IV, XI

B. Demonstrate product development using simulation and game development programming, tools and techniques. I, II, III, IV, XI

C. Demonstrate use of game theory when applied to programming and scripting of simulation and game development. I, II, III, V, IX, XI, XII

D. Demonstrate proper syntax, code structure, structured design and object coding. I, III, X, XI

E. Generate all required working elements for a simulation. V, VI, VII, IX, XI, XII

F. Generate all required working elements for a game. V, VI, VII, IX, XI, XII

*Roman numerals after course objectives reference TBR’s general education goals.

III. Instructional Processes*:

Students will:

1. Acquire resources, tools and methods for simulation and game development. (Active Learning Strategies)

2. Learn, plan, schedule, execute, control, enhance, debug and meet deadlines. (Active Learning Strategies)

3. Apply game development techniques, programming and script-coding to novel problem situations, and generate an individual project (simulation). (Active Learning Strategies, Social/Behavioral Sciences Outcome)

4. Apply game development techniques, programming and script-coding to novel problem situations, and generate an individual project (game). (Active Learning Strategies, Social/Behavioral Sciences Outcome)

5. Apply knowledge about the development tool, language, engines, scripts, tutorials and software implementations being discussed and used. (Technological Literacy Outcome)

6. Effectively utilize the resources provided and other sources of research to create functional elements and two working finished products. (Active Learning Strategies, Technological Literacy Outcome)

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting course work to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should 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. Use 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)


*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

Students are evaluated primarily on the basis of tests and laboratory assignments. Each instructor must provide full details the first week of class via a syllabus supplement.

B. Laboratory Expectations:

Lab is part of this lecture/lab course, and attendance is required. Assignments and projects will be given and must be completed and handed in at the designated date. The student is expected to turn in all required documentation for each lab.

C. Field Work:

n/a

D. Other Evaluation Methods:

Class participation and online activities/homework will also comprise the final grade for the course.

E. Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
</tr>
<tr>
<td>B+</td>
<td>88 – 92</td>
</tr>
<tr>
<td>B</td>
<td>83 – 87</td>
</tr>
<tr>
<td>C+</td>
<td>78 – 82</td>
</tr>
<tr>
<td>C</td>
<td>73 – 77</td>
</tr>
<tr>
<td>D</td>
<td>65 – 72</td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
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</tbody>
</table>

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical 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. [NOTE: No differentiation is noted for excused/unexcused absences. These will be treated as an absence.] *(Pellissippi State Catalog)*

B. Academic Dishonesty:
Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions which 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 Catalog)*

C. Accommodations 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 134 or 126 or by phone: 694-6751(Voice/TTY) or 539-7153. More information is available at [www.pstcc.edu/departments/swd/](http://www.pstcc.edu/departments/swd/)

D. Other Policies:

**Computer Usage Guidelines:**

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State’s computing resources in an effective, efficient, ethical and lawful manner. *(Pellissippi State Catalog)*