PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS  

SPECIAL TOPICS: INTRODUCTION TO SIMULATION AND GAME PROGRAMMING  
CSIT 2490

<table>
<thead>
<tr>
<th>Class Hours:</th>
<th>3.0</th>
<th>Credit Hours:</th>
<th>4.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Hours:</td>
<td>Online</td>
<td>Revised:</td>
<td>Fall 09</td>
</tr>
</tbody>
</table>

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

An introduction to the field of game development using programming languages. The exploration of three different languages and how they apply to game development will be covered in this course. 2D and 3D development tools, online resources, language structures and syntax, use of game development techniques and application of scripting in a virtual world will all be explored. Students will use online interactive tutorials in class and as homework assignments, so usage of a home computer with internet access and/or use of open lab systems will be required outside of the allocated and scheduled lab times.

Entry Level Standards:

College level reading and writing, plus adequate planning and logic expectations are expected as students must read handouts and online material and be ready to discuss the material in class. In addition, students will be expected to do independent research on the topics and test various code sets as directed.

Prerequisite:

An interest in game development, college level reading, writing and math/logic skills.

Textbook(s) and Other Reference Materials:

_Extensive online tutorials, handouts, in-class presentations and virtual world resources will be provided._ Students will be expected to printout (*or generate a display presentation product—example: PowerPoint), organize and keep a Notebook* that will be graded for completeness as part of the final project set.

Suggested Optional Supplementals:

Web site material will be used to supplement this course. Students will interact using online VR environments and will schedule weekly timeframes for individual and group activities.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Background, The Gaming Arena, Incentives to program in this emerging job sector</td>
</tr>
<tr>
<td>2-3</td>
<td>Introduction to 2D programming structures using Blitz</td>
</tr>
<tr>
<td>4-5</td>
<td>Introduction to 3D programming structures using Blitz3D, Blitz Test</td>
</tr>
<tr>
<td>6-10</td>
<td>C++ as a Game platform language, Structures and syntax</td>
</tr>
<tr>
<td>10</td>
<td>Notebook* Evaluation 1, Midterm Test (C++)</td>
</tr>
<tr>
<td>11-14</td>
<td>Virtual World programming, Introduction to Scripting Language usage</td>
</tr>
</tbody>
</table>
II. Course Objectives*

The student should be able to: (linked to CSIT “Program Goals”)

A. Discuss the need for Game programming today, (including aspects beyond traditional game play development). I, II, III, IV, XI

B. Demonstrate an understanding of the primary concepts of game play and animated 2D motion and interaction I, II, III, IV, XI

C. Demonstrate an understanding of the primary concepts of game play and animated 3D motion and interaction. I, II, III, V, IX, XI, XII

D. Demonstrate use of algorithms and data structures as applied game development. I, II, III, V, IX, XI, XII

E. Recognize and demonstrate proper syntax, code structure and working game-based programming and scripting products. I, III, X, XI

F. Generate a set of tutorial resources for continued use of the products presented. V, VI, VII, IX, XI, XII

G. Demonstrate logic, use of resources and tools, to develop a working set of game products. I, II, III, X, XI, XII

III. Instructional Processes: (Linked to PSTCC “General Education Goals”)

Student will:

1. Acquire and/or write documents to be used as a future resource for game development and share resources with other students. (Active Learning Strategies, Communications Outcome)

2. Work to deadlines and schedules, and be encouraged to improve study and learning skills (Active Learning Strategies)

3. Learn and apply game development techniques, apply these skills to novel problem situations, and participate in a team project and individual projects. (Active Learning Strategies, (Social/Behavioral Sciences Outcome)

4. Learn about the hardware, language, tutorial and software implementations used for game generation, including those used in class and others found through handouts and research. (Technological Literacy Outcome)

5. Effectively utilize the resources provided and other sources of research to create a base-line set of resources that can be used beyond the scope of this course. (Technological Literacy Outcome)

III. Expectations for Student Performance*: (Linked to “Course Objectives”)

1. Demonstrate knowledge of game usage and development. (A, F, G)

2. List, discuss and use 2D products. (B, D, E)
3. List, discuss and use 3D products. (C, D, E)

4. Generate working code that will demonstrate game play actions and outcomes. (B, C, D, E, F, G)

5. Find and use tutorial resources. (B, C, D, E, F, G)

6. Create computer programs that utilize Blitz. (B, C, D, G, E)

7. Create computer programs that utilize C++. (B, C, D, G, E)

8. Create computer controlled (scripted) objects in a 3D virtual environment. (B, C, D, G, E)

9. Maintain a detailed course notebook or presentation product representing the coursework you have completed. (A, B, C, D, E, F)

10. Present or demonstrate a final product for class review. (A, B, C, D, F)

IV. Evaluation:

A. Testing Procedures:

Students will be evaluated based on three tests (-100 pts. Each), Assignments (10 – 20 pts each), online and homework expectations (140 pts total) and Projects (160 pts total) completed. Tests will cover material presented in class, handouts and online resources as given. Tests are not to be missed without a valid excuse.

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. (Points associated with labs are shown above). 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: (Based on 800 point total)

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
<th>Minimum Points</th>
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<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>744 pts minimum</td>
</tr>
<tr>
<td>88-92</td>
<td>B+</td>
<td>704 pts minimum</td>
</tr>
<tr>
<td>83-87</td>
<td>B</td>
<td>664 pts minimum</td>
</tr>
<tr>
<td>78-82</td>
<td>C+</td>
<td>624 pts minimum</td>
</tr>
<tr>
<td>73-77</td>
<td>C</td>
<td>584 pts minimum</td>
</tr>
<tr>
<td>65-72</td>
<td>D</td>
<td>520 pts minimum</td>
</tr>
<tr>
<td>Below 65</td>
<td>F</td>
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V. 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. (Pellissippi State
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 of examination or to assign an F in the course. *(Pellissippi State Online Catalog)*

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her 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 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. 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 Online Catalog)*