Spring 2008
Digital Arts Lab (CIS 1017)
Monday & Wednesday
10:00 a.m. - 11:15 a.m.

Eric Patterson, Ph.D.
CIS 2031, Office Hours: 11:15 a.m. - 12:00 p.m. MWF, 2:30-3:30 p.m. MW, or by appointment
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Course Description:

Topics related to the implementation of computer games are covered, including history, design, modeling, animation, scene graph structure, object representation, graphics pipeline implementation, rendering, collision detection, picking, graphics optimization, and other issues such as basic artificial intelligence for games.

A brief overview of game-related mathematics (linear algebra, parametric equations, quaternions) and game-related programming skills (C++, memory management) will be included in course material.

Students will design game elements, model characters and terrain, and animate character meshes to be exported for use in running game-engine code that they modify and program. Maya or other 3-D software will be used along with the open-source, multi-platform (MacOS X, Linux, Windows) game engine, Irrlicht, to which code modifications and additions will be made. Implementations in C# and XNA will also be discussed and developed, and current gaming consoles (Playstation 3 and Xbox 360) will be used for development

Required Texts:

3D Game Engine Design by Ebberly

The Game Artists's Guide to Maya

Optional Texts:

XNA Studio Express

Grading:

2-D Mini-Game Implementation	15 %
Animated Character Mesh (Ready-to-Use)	10 %
Terrain Mesh Creation	10 %
3-D Game Project (Characters, Terrain, Code)	25 %
Homework	15 %
Unannounced Quizzes	25 %

Etcetera:

Skills required for this course include programming experience (C or C++ preferable) and some understanding of 3-D graphics concepts. Formal prerequisites include ART/CSC/FST 220 and 320, CSC 340, and CSC 370.

Reading assignments and homework will be given from the texts. As class time will be limited, students will need to read, model, animate, and develop extensively outside of class. Material for unannounced quizzes may come from outside reading and supplemental materials as well as lecture.

Coding, modeling, and animating are all quite time-consuming, so plan carefully to complete projects in a timely manner. Late work will be reduced in grade. There are no make-up quizzes. Please contact me in advance, if possible, if you must miss any graded work.

As projects are collaborative efforts, attendance is required. Grades will be both directly and indirectly affected by absences. More than three class absences may result in course failure. Students are individually responsible for keeping current with course material and assignments. Class announcements supersede posted material.

Academic honesty in all your work is required for a passing grade.

This syllabus may be subject to change with reasonable notice.