

UNIVERSITY OF MARY HARDIN-BAYLOR
COMPUTER SCIENCE CLASS SYLLABUS
Spring, 2010

GENERAL INFORMATION

Course Number:	CISC 4346
Course Title:	Game programming II
Number of Credits:	3
Location of Class:	Davidson Building, Room 122
Meeting Time:	11:00 – 12:20 AM T,Th
Professor:	Dr. Edwin Armstrong.
Office:	Room 106 Davidson Building
Office Hours:	See Professor's schedule posted in Davidson
Office Phone:	(254) 295-5418
Email:	earmstrong@umhb.edu
Class web-page:	tinyRealm.com

COURSE DESCRIPTION

This is our second course in games programming and will go beyond simple 2D, bit-mapped and scrolling games into the realm of advanced 3D game engine programming. The student is assumed to have had Games Programming I, or at least a strong Data Structures course. This is a programming class and the majority of the student's effort will be spent in programming and the writing of games. The student will learn to work both independently, and in small and large groups, to improve a Multi-player and Massively Multi-Player Online Role Playing Game (MMORPG). The student will work in each section of the existing game engine, gaining understanding as we collectively modify and improve the game. Game engine techniques that will be included will be: real-time 2D and 3D graphics and lighting, terrain and texture mapping, visibility and occlusion, collision detection and avoidance, character animation and the use of autonomous A.I. characters. In addition, the game will be both a single user and multi-player, network-based game. Skill attained in this course may be utilized to develop further games or simulations irrespective of platform or graphics library. This course will require a lot of out of class time; The average student spends between 3 -15 hours per week working on programs and projects (keep up and if you start falling behind, ask for help early). Assignments will be given out in class and posted on the CISC 4346 web-page, along with the BBS - used for class interaction and help; Web-link: <http://tinyRealm.com/~efa/cisc4346/>

COURSE OBJECTIVES

The Internet has made online Virtual Worlds role playing a popular activity. The programming and maintenance of these games is an important and profitable task for computer science professionals. The student must gain a good understanding of the online gaming and simulation industry. They must also develop their abilities at working in teams to modify and solve problems that arise in games development. The skills attained in this course may be applied to advanced programming classes irrespective of the programming platform and graphics library utilized to accommodate the activity.

Upon completion of this course the student should be able to:

1. Identify the common sections and methods used in Virtual World games.
2. Demonstrate proficiency in the methods of writing advanced Internet games.
3. Demonstrate the ability to work independently and in small teams to solve problems.

3. Understand the general use of advanced lighting and Texturing in 2D/3D games development.
4. Understand some of the issues involved in building and marketing online virtual world games.

COURSE MATERIALS:

Textbook:

[Google SketchUp 7 For Dummies](#)

by Aidan Chopra

ISBN #: 978-0470277393

Publisher: For Dummies

Edition: 1st

Copyright Year: 2009

Other items:

A flash drive is required for this class (at least a 2 Gig).

COURSE POLICY AND PROCEDURES

A. Class Participation: Each student is expected to fully participate in class discussions and to submit assignments by the time designated. It is the individual student's responsibility to arrange ahead of time and obtain approval for late submission of assignments or makeup examinations. Class participation and timely completion of all assignments will be fully considered in determining a student's overall grade.

B. Attendance: Students are strongly encouraged to attend each class. Attendance and participation are considered in the final grade; failure to attend at least 67% of scheduled classes (2 out of 3 per week) for any reason will result in a grade of "F" for the course. Communicate with the professor in advance if you expect to be absent. In case of an emergency, it is expected that appropriate arrangements will be made by the student immediately upon return to campus.

C. Written Assignments: Reading and study assignments are indicated in the attached schedule. Quizzes may be administered periodically to determine comprehension of reading assignments and class discussion. Written (homework) assignments will be assigned periodically to reinforce the reading assignments. These exercises will be less involved than the Laboratory Projects, usually involving answering questions from the text or assignment sheet. Classes will be conducted on the assumption that students have read the material in the text so that the focus can be on class discussion of the topics.

D. Examinations: Three examinations (including the Final) will be administered during the semester as indicated in the class schedule. The examinations will include practical exercises and may require use of the Computer Laboratory. The material to be covered on each examination will be as indicated in the schedule. **There will be no make-ups for the Final Exam.**

E. Projects: Students will be assigned specific projects (labs) to be completed on their own or in groups. Work on these in the Laboratory or at home *as long as the software used is the same (including version) as that installed on CISC Computer Laboratory*. Projects constitute perhaps the most important part of achieving the course objectives. Projects will consist of programming assignments and other activities deemed appropriate to course objectives; each will be assigned a specific due date. The primary method of delivery is through revision control software (**subversion using Tortoise**).

F. Guidelines for Submissions: The quality of your submissions reflects upon your professionalism and pride in your work. The individual projects will be submitted as indicated in the assignment sheet. Students are responsible for insuring their projects have, in fact, been turned in on time and should maintain a copy of computer based projects on a portable media ('flash' drive). Students are encouraged to discuss their work with each other; however, **projects and assignments to be submitted must be the individual student's effort**. Any obvious duplication of work will result in a grade of zero for all students involved; additional occurrences will result in disciplinary action at the departmental level.

G. Grade Computation: Successful completion of this course requires taking the three examinations, and completion of the assigned individual projects. Failure to take an examination or to complete any of the assignments (in accordance with guidelines in item "B Attendance" above) will result in a grade of "0" for that assignment or exam.

Examinations	20
Projects & assignments	70
Attendance, Participation	10
Total	<u>100</u>

A= 90-100%, B= 80-89%, C= 70-79%, D = 60-69%, F = 59% or less. The final grade will be computed to one decimal place and then rounded.