MASTER SYLLABI

7/1/03

MINNESOTA SCHOOL OF BUSINESS
GLOBE COLLEGE
TECHNICAL COURSE SYLLABUS

COURSE NUMBER: **GD350**
COURSE TITLE: GAME DEVELOPMENT PRODUCTION
COURSE LENGTH: 12 WEEKS
CREDIT HOURS: 5
PREREQUISITES: GD310
CONTACT HOURS: 90 (LECTURE 10/ LAB 80)

TEXT: PROGRAMMING ROLE PLAYING GAMES WITH DIRECT X, Jim Adams, Andre LaMothe, 2002, Premier Press Inc. **ISBN:** 1-931841-09-8

COURSE DESCRIPTION: Students will create their own computer game. They will learn game engine design and Windows programming. Emphasis will be placed on implementing a design document into a working computer game. The areas of study will include creating game design documents, creating 2D graphics, and creating 3D graphics engines. The course will also cover collision detection and game mechanics.

OBJECTIVES: Upon completion of this course, the student will be able to:

1. To verify an understanding of the design principles underlying games.
2. To become proficient with programming Windows and application basics.
3. Develop design document concepts.
4. Evaluate the basic process of creating a game.
5. Utilize Direct X.
6. Utilize texture maps.
7. Design computer games and graphics engines.
8. Effectively use matrixes.
9. Effectively present a computer game.

COURSE OUTLINE:

Topics & Class Activities	**Required Reading**
Week 1	
Creating Your Design Document	
Week 2	
Programming Basics	
Functions	
Classes	
Week 3	
Programming with Windows and Application Basics	
Working Inside a Window	
Direct X	
Handling Application Data	
Building an Application Framework	
Setting Up Direct X	Appendix A

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Topics & Class Activities **Required Reading**

Week 4

Drawing with Direct X
- Getting Started
- Math of 3D
- Matrix Math

Week 5

Drawing with Direct X
- Using Texture Maps
- Alpha Blending
- Depth Sorting and Z-Buffering
- Meshes with D3DX

Week 6

Creating the Game Core
- System Core
- Graphics Core
- Input Core
- Sound Core

Week 7

Using 2D Graphics
- Tiles and Maps
- Basic Tile Engine

Creating 3D Graphics Engines
- Meshes as Levels
- Developing an Advanced 3D Engine

Week 8

Creating 3D Graphics Engines
Collision Detection with Meshes

Mixing 2D and 3D Graphics Engines
- Using 2D Objects in a 3D World
- Adding 3D Objects to a 2D World

Week 9

Defining and Using Objects
- Defining Objects for your game
- Managing Items with Inventory Control Systems

Working with Maps and Levels
- Placing Characters on the Map
- Using Map Triggers
- Using Auto Maps

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Topics & Class Activities **Required Reading**

Week 10

Creating Combat Sequences
- Designing External Combat Sequences
- Using Battle Arrangements

Putting Together a Full Game
- Designing the Sample Game

Week 11

Putting Together a Full Game
- Programming the Sample Game

Week 12

- Presentation of Design Documents
- Presentation of Prototype Game
- Final Exam

INSTRUCTIONAL METHODS: Class sessions will consist of instructor lectures, demonstrations, critique sessions, process and planning exercises, and assignments. Students will be assigned reading from required texts and instructor provided handouts. Classes will consist of 10 hours of lecture. Students should expect research, writing and presentation assignments.

EVALUATION METHODS:

Grades are an indicator of overall performance, achievement and participation. Students are responsible for completing all course requirements on time to receive credit. Final projects will be presented during finals week.

Written projects / reports	300
Testing	200
Final Project	300
Attendance and Participation	200

The final grade for the course is based on an accumulation of points in each of the above areas and weighted accordingly. A total of 1000 points are possible. These points are based on the following percentages:

100-90%	A
89-80%	B
79-70%	C
69-60%	D
59% and lower	N/C

SUPPLIES REQUIRED:

- Notebook
- Presentation Materials (3-ring binders)
- Pens or pencils