COURSE OUTLINE OF RECORD

Dept., Number	CSC 3342	**Course Title**	Computer Graphics
Semester Hours	3		
Year	2006	**URL (if any):**	

Current Catalog Description:

This course is a study of principles and techniques of interactive computer graphics, display processors and device, graphics programming languages, and algorithms for managing graphics data. Prerequisites: CSC 2331 and MAT 2317 or permission of Department Chair.

Textbook:

Interactive Computer Graphics, Edward Angel, Addison-Wesley 2006.

Course Goals:

Upon completion of this course, the student should be familiar with all aspects of 2-dimensional computer graphics. The student will also be introduced to certain topics in 3-dimensional computer graphics.

Prerequisites by Topic:

Data Structures
Calculus I

Major Topics Covered in the Course (number of weeks):

1.	Graphics Systems and Models	1
2.	Graphics Programming	2.5
3.	Input and Interaction	2
4.	Geometric Objects and Transformations	2.5
5.	Graphics Packages, Web Graphics, Student Presentations, etc.	2.5
6.	Viewing	1.5
7.	Professional Ethics	1
8.	Other topics	1

Laboratory Projects:

1.	Some sample OpenGL programs in Visual C++ environment	2 weeks
2.	Sierpinski gasket related programs	2 weeks
3.	Interactive programs	2 weeks
4.	Graphics packages or web graphics presentations and/or papers	3 weeks
5.	Programs using transformations	2 weeks
6.	Other projects	

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Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms	2		Data Structures		
Software Design	1		Prog. Languages		
Comp. Arch.					

Oral and Written Communication:

Typically, every student is required to submit at least 1-2 written reports of 3-5 pages and to make oral presentations of 5-10 minutes duration. You may have to do the oral presentations/demonstrations on your project assignments.

Social and Ethical Issues:

Every student needs to submit a 3-5 page paper dealing with the topics on the social and ethical issues. You may be required to give a brief talk on your paper. Some topics will be discussed in the class. These topics will be covered in approximately 20 minutes.

Theoretical Content:

Two-dimensional geometric transformations (5.0 hours)
Two-dimensional viewing (2.5 hours)
Three-dimensional graphics (5.0 hours)

Problem Analysis:

In each project assignment, students are required to write 1-2 pages of analysis and conclusion on their experiments on the project.

Open-Ended Design:

Students have to use good comments to clarify their programming designs on each project. You are encouraged to submit separate pages on the designs of your projects.