

# Topics in 3D Graphics

ARTS 4060-01

Tuesday, Friday 2:00pm – 3:50pm

Sage Hall VAST Studio 2403

Spring 2005

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*As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality. – Albert Einstein*

## **Abstract:**

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This course will be an introduction into real-time graphics processing. We will be using open source tools building towards cross-platform compatibility. Goals of this course are to gather an understanding of graphics engines, visualize related fields of study, experiment with digital media, comprehend the real-time graphics lingo, and have fun. All projects will be expected to have both a technical and conceptual/ creative aspect to them. Each assignment describes how points are broken into categories.

## **Supplies:**

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Required:

- Notebook – Some means by which you can write things down to remember later. I'm not always around to answer questions, and being self-sufficient is good.
- Data storage – Whichever means of saving your files is most trustworthy and effective for you. You are responsible for your data, no excuses.
- OpenGL Programming Guide. (The Red Book) Any version 1.2 or greater is acceptable.

Recommended:

- The C Programming Language. Brian W. Kernighan and Dennis M. Ritchie. Second Edition or better.

## **Important Points:**

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- Be on time. Attendance will be taken every class. Excused absences must be cleared on instructor's conditions before the start of class by phone, email, or in person. See Grading for further explanation.
- Email; it is the most effective communication with me outside of class. I will also use it to communicate with you, so please check regularly. I will respond as soon as possible, but understand that email between 11pm and 8am will most likely wait until the next morning.
- No audible cell phones; if you decide to take the call, please exit the classroom to talk.

- Instant Messenger and/ or other open non-related applications; if you running extraneous distracting applications other than what is being taught and you ask for help, then you may be denied the help until you start paying attention.

### **Academic Integrity**

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- Trust:

Student-Teacher relationships are built on trust. Students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach. And, teachers must trust that the assignments which students turn in are theirs. Acts which violate this trust undermine the educational process.

- Plagiarism:

All work produced in this course must be original and created by the student. First infraction will result in a failure for the course and a report to the office of the Dean.

- Collaboration:

Collaborative work and discussion is encouraged. Instructor must be notified of student's intention to collaborate on assignments well ahead of that assignment's deadline. Instructor will determine whether or not collaboration will be allowed. Upon assignment completion, there must be documentation of each member's contribution to the finished assignment. The instructor reserves the right to award members of the collaboration different grades.

### **Project and Attendance Grading:**

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- 175 total earnable points from projects
- 10 percent of the assignment's total points will be deducted per day late
- Attendance and tardy modifications as follows:
  - Each 3 tardies equal 1 absence
  - Each 3 absences equal reduction of total points by 10 percent – the equivalent of 1 letter grade.
- Any appeal for grades must be brought to the instructor during office hours or at a scheduled time convenient to both parties. Keep in mind than an appeal may raise or lower your grade.
- There is no rounding of the thousands place

		Percentage		Total Points	
A	Excellent	100	- 90	225	- 157.5
B	Good	89.99	- 80	157.4	- 140
C	Completed	79.99	- 70	139.9	- 122.5
D	Poor	69.99	- 60	122.4	- 105
F	Failure	59.99	- 0	104.9	- 0

**Project Assignment Schedule:**

Projects are due on the date that matches the end of their time block. For example, the first assignment “Test Drop Box” is due Jan 18<sup>th</sup> not Jan 25<sup>th</sup>. Readings are supplied for student’s use in relation to project assignments. Discussion about readings will not occur unless otherwise notified during the class time in which they are assigned.

Day	In Class	Assignments
18-Jan	intro, GNU, review	Test Drop Box
21-Jan	makefiles, GLUT	
25-Jan	primatives, transform	
28-Jan	key, mouse	Input
1-Feb	blending, WIC	
4-Feb	view I, Viewport	
8-Feb	Hierarchy, Pick	
11-Feb	particles	
15-Feb	Lighting, Materials	
18-Feb	view CF	Research
22-Feb	follow Monday schedule	
25-Feb	view R	
1-Mar	Texturing	
4-Mar	Pixel buffers	
8-Mar	WIC	
11-Mar	view A	Autonomous
	spring break	
22-Mar	F Shader	Hello Shader
25-Mar	V Program, WIC	
29-Mar	view S	
1-Apr	No Class – S in Chicago	
5-Apr	load obj.	
8-Apr	view P	
12-Apr	WIC	
15-Apr	WIC	
19-Apr	WIC	
22-Apr	review	
26-Apr	WIC	
29-Apr	WIC	
3-May	Final Critique	
13-Apr	last day of exams	Final

- changes to syllabus may be made at instructor's best discretion •