

# Course Syllabus - Fall 2014

**Course Title/Number:** Computer Graphics for Gaming / IST 438

**Location:** Prichard Hall 200

**Times:** TR 12:30 pm - 1:45 pm

**Instructor:** Dr. Alice Lin

**Office:** 346 Old Main

**Phone:** (304) 696-6418

**E-Mail:** [lina@marshall.edu](mailto:lina@marshall.edu)

**Office hours:** TR 10:30-12:00, 3:30 - 5:00  
Other times by appointment

**University Policies:** By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <http://www.marshall.edu/academic-affairs> and clicking on "Marshall University Policies." Or, you can access the policies directly by going to [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802)

Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

## Course Description:

Topics include an introduction to the basic concepts: 2-D and 3-D modeling and transformations, viewing transformations, projections, rendering techniques, and graphics systems; graphical techniques that are used in the games industry to create modern applications.

## Textbook:

Computer Graphics: Principles and Practice, 3/E

Author: John F. Hughes, Andries van Dam, Morgan McGuire, David F. Sklar, James D. Foley, Steven K. Feiner, Kurt Akeley

ISBN-10: 0321399528

ISBN-13: 9780321399526

Publisher: Addison-Wesley Professional; 3 edition (July 20, 2013)

## Credit:

The course is three (3) credit hours. It includes classroom lectures, exams, homework assignments, and projects.

**Course Student Learning Outcomes:**

By the end of this course, you should be able to:

<b>Course Learning Outcomes</b>	<b>How Each Outcome is Practiced in this Course</b>	<b>How Each Outcome is Evaluated in this Course</b>
Given a description of a two or three dimensional transformation, students should be able to derive its matrix representation using homogeneous coordinates.	In-class lectures, in-class examples, exams, homework assignments and projects	Projects, homework assignments, and exams
Students will have an understanding of 2D graphics and algorithms including: line drawing, polygon filling, clipping, and transformations. They will be able to implement these.	In-class lectures, in-class examples, exams, homework assignments and projects	Projects, homework assignments, and exams
Students will understand the concepts and techniques used in 3D computer graphics, including viewing transformations, color, lighting, and texture mapping.	In-class lectures, in-class examples, exams, homework assignments and projects	Projects, homework assignments, and exams
Students will be introduced to algorithms and techniques fundamental to 3D computer graphics and will understand the relationship between the 2D and 3D versions of such algorithms. Students will be able to reason about and apply these algorithms and techniques in games.	In-class lectures, in-class examples, exams, homework assignments and projects	Projects, homework assignments, and exams
Students will have an understanding of some of the effects and techniques used in modern video games and how to implement them.	In-class lectures, in-class examples, exams, homework assignments and projects	Projects, homework assignments, and exams

**Grading Policy:**

Homework - 30%

Exams - 30%

Projects – 40%

Final letter grades are determined based on the following grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60	F

The instructor reserves the right to change these values depending on the overall class performance and/or extenuating circumstances.

**Attendance Policy:**

Attendance is strongly encouraged. It is the student's responsibility to meet with instructor to discuss absences due to illness or other reasons. The university attendance policy will apply for excused absences.

**Withdrawal Policy:**

The University withdrawal policy is followed in this course. The last day to drop an individual course for the Fall Semester is October 31, 2014.

**Course Schedule:**

Please note this is a tentative schedule.

Week 1	8/25	Syllabus, CH 1
Week 2	9/1	CH 2-3
Week 3	9/8	CH 4-5
Week 4	9/15	CH 6
Week 5	9/22	CH 7 (Homework 1 due)
Week 6	9/29	CH 8-9
Week 7	10/6	CH 10-11
Week 8	10/13	Midterm Exam, CH 12 (Project 1 Due)
Week 9	10/20	CH 13-14 (Homework 2 due)
Week 10	10/27	CH 15
Week 11	11/3	CH 19-20
Week 12	11/10	CH 28 (Homework 3 due)
Week 13	11/17	CH 33
Week 14	11/24	Thanksgiving/Fall Break-Classes Dismissed
Week 15	12/1	Dead Week –Review (Project 2 Due)
Week 16	12/8	Final Exam