

CMSC 161: Interactive Computer Graphics

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2nd Semester 2014-2015

Institute of Computer Science

University of the Philippines – Los Baños

Lecture by James Carlo Plaras

Course Description

Graphics systems software and hardware,

2D drawing algorithms,

Geometrical transformations,

Surface modeling,

3D viewing,

Visible surface determination algorithms,

Reflection and illumination models,

Shading models for polygons,

Color theory,

Ray tracing,

Animation.

Prerequisites

- Required Prerequisite :
 - CMSC 123 or
 - COI
- Recommended Prerequisites:
 - CMSC 21 and CMSC 22 (for basic programming concepts)
 - MATH 17, CMSC 56 and 57 (for matrices, linear algebra and trigonometry)
 - CMSC 2 and CMSC 100 (for JavaScript and HTML)

Topics to be covered

Introduction to Computer Graphics

From Real World to Synthetic World

Introduction to WebGL

Primitives and Geometric Objects

Affine Transformations

Viewing

Lighting

Shading and Advanced Lighting

Textures

Clipping

Anti-aliasing

Rasterization

Hidden Surface Removal

*Ray Tracing

*Animation

Grading Scheme

- 50 % Lecture
 - 20 % 1st Long Exam
 - 20 % 2nd Long Exam
 - 10 % Quizzes/Assignments
- 50% Laboratory
 - 35 % Exercises
 - 15% Project

General Course Policies

- University rule regarding **absences** will apply
- **Quizzes** may be announced or unannounced

Grading Scale

96-100	1.00	70-74.99	2.25
90-95.99	1.25	65-69.99	2.50
85-89.99	1.50	60-64.99	2.75
80-84.99	1.75	55-59.99	3.00
75-79.99	2.00	0-54.99	5.00