

Computer Technology and Information Systems
Bilkent University, Ankara, Turkey.
2017 - 2018 Spring

Outline

Date	Lecture
Week 01	a: Introduction to Computer Graphics, its purpose and usage areas b: Event-based Programming, GLUT interface
Week 02	a: GLUT properties, functions, programming, Introduction to OpenGL, Cartesian Coordinate System, Drawing primitives (point, line, triangle, polygon, fonts) b: GLUT, : 2D Drawing examples, 2D chart drawing.
Week 03	a: Basics of Trigonometry b: Vectors and Matrices
Week 04	a: Geometric Transformations and Matrix Operations using OpenGL, Basics of Animation, Display Properties, Double Buffering, Triple Buffering b: 2D Affine Transformation and Animation Example.
Week 05	a: 3D Drawing: 3D Coordinate System, Modeling b: 3D Viewing, Orthographic and Perspective Camera Models in OpenGL
Week 06	a: 3D Modeling, GLUT 3D Primitives, 2D and 3D cameras in the same scene. b: Walkthrough in a 3D Environment,
Week 07	Midterm #1
Week 08	a: Texture Mapping, SkyBox b: Example for Texture Mapping using OpenGL
Week 09	a: Color, Perception, Shading Models, Surface Normals, Lighting in Opengl
Week 10	b: Use cases about Lighting.
Week 11	Midterm #2
Week 12	a: 3D Model Loading, animated characters (MD2 file format, OBJ file format) b: Use case
Week 13	a: Blending and Transparency, Reflections b: Use case
Week 14	a: Fogging b: Future Directions