

Course Outline

1. Document Information

Degree Program	Computer Science
Course Number	CS 585
Course Title	Advanced Topics in Computer Graphics
Semester Hours	3
Course Coordinator	Shu Tong
Revision Term	Fall 2020
Latest Revision	Spring 2021

2. Catalog Description

Study of computer graphics for realistic image synthesis. Object modeling and associated data structures. Advanced rendering techniques such as raytracing and radiosity. Efficiency considerations. Image composition and compression. Current advances and research problems in realistic computer graphics.

3. Textbooks

4. References

5. Course Learning Outcomes

6. Assessment of the Contribution to Student Outcomes

Outcome	1	2	3	4	5	6	7
Assessed	X	X	X	X			

7. Prerequisites by Topic

CS 485.

8. Major Topics Covered in the Course

1. Overview of 3D graphics and methods in realistic image synthesis.
2. Introduction to PHIGS.
3. Reflection and shading models.
4. Object representation and modeling.
5. Rendering.
6. Anti-aliasing.
7. Ray tracing and methods to enhance realism.