

Advanced Computer Graphics (4190.562)

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1. Course Description:

This course covers basic algorithms and systems that deal with three-dimensional modeling and processing in computer graphics and 3D games.

2. Prerequisites:

Computer Graphics (4190.410)

3. Grade:

- Midterm: 100 pts
- Final: 100 pts
- Homeworks, Quizzes & Projects: 100 pts

4. Text Book:

- Tomas Akenine-Möller and Eric Haines, *Real-Time Rendering*, 2nd Ed., A.K. Peters, Natick, Massachusetts, 2002.

Weeks	Lectures	Projects
3/1–5	Introduction Rendering Pipeline	
3/7–12	Transforms	
3/14–19	Curves and Surfaces	
3/21–26	Acceleration Algorithms	
3/28–4/2	Intersection Test Methods	
4/4–9	Intersection Test Methods	
4/11–16	Collision Detection	
4/18–23	Midterm Exam	
4/25–30	Polygonal Techniques	
5/2–7	Visual Appearance	
5/9–14	Visual Appearance	
5/16–21	Texturing	
5/23–28	Texturing	
5/30–6/4	Environment Mapping	
6/6–11	Image-Based Effects	
6/13–18	Final Exam	