

# CS435/535: Computer Graphics

## Course Syllabus - Spring 2015

12:30-1:45pm TR, SEC 3437

<http://cs435.cs.ua.edu>

---

### Course Objectives:

After successfully completing this course, students will

- Have a solid grasp of the graphics pipeline.
  - Understand how the graphics pipeline is implemented.
  - Be able to perform graphics programming with OpenGL.
  - Be familiar with advanced graphics technologies.
- 

### Course Description:

Fundamental concepts dealing with the display of graphic information on semi-interactive storage tube displays. The course includes techniques for hidden line display, hidden line removal, and two- and three-dimensional transformation.

**Prerequisites:** CS 325, CS357, and ECE 383.

### Text:

- Angel & Shreiner, *Interactive Computer Graphics: A Top-Down Approach with WebGL*, 7/E, Addison-Wesley, 2014, ISBN 0-13-357484-9.
- Shreiner, etc., *OpenGL Programming Guide*, 8/E, Addison-Wesley, 2013, ISBN 0-321-77303-9.

### Instructors:

- Jingyuan (Alex) Zhang, Ph.D.
- Office: 3413 SEC
- Phone: 348-9516
- Email: [zhang@cs.ua.edu](mailto:zhang@cs.ua.edu)
- Web Page: <http://cs.ua.edu/~zhang>
- Office Hours: 12:00-1:00pm MWF

### Attendance Policy:

- Students are expected to attend all class meetings. The final grade is partially based on class participation.

### Grading Policy:

- Mid-term (25%), and final (40%).
- About 7 assignments and projects (35%).
- Class participation (5%).
- A student is allowed to make up assignments, projects, or exams missed only if he/she has an excusable reason.

### Topics to be covered:

- Introduction: Chapter 1
  - Graphics Programming with WebGL: Chapter 2
  - Interaction: Chapter 3
  - Modeling: Chapters 4 & 9
  - Viewing: Chapter 5
  - Shading: Chapter 6
  - Implementation of Graphics Pipeline: Chapter 8
  - Texture Mapping and Other Discrete Techniques: Chapter 7
  - Shading Language: Chapters 2, 6 & 7
  - Curves and Surfaces: Chapter 11
  - Advanced Topics: Chapters 10 & 12
-