Instructor

• Dr. Wei Zeng
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• Office: ECS 357
  Hours: Wednesday, 2:00-5:00pm, or by appointment

Lectures

• Time: Friday, 1:00-3:50pm
  Room: ECS 134
• Website: www.cs.fiu.edu/~wzeng/courses/2013-Fall/

Prerequisites

SCIS Graduate Standing (or equivalents, or permission of instructor)

Textbook

None required.

Reading Material


Course Objectives

Students will learn fundamental theories and computational algorithms for conformal geometry, and broad applications in engineering and biomedical fields. The seminar course aims at using computational approach and visualization techniques to teach abstract geometric theories and prepare for Graphics related research.

Topics

1. 2D/3D Computer Graphics
2. Introduction to Geometry & Topology
3. Discrete Surface
4. Topology
5. Hodge Theory
6. Harmonic Map
7. Ricci flow
8. Surface Registration & Shape Analysis
10. Paper Reading & Project Discussion

Grading Policies

The grading is based on research projects. Project is created based on lecture content and graduate students' research interests and background, and skill accumulation.

• Midterm report (project preparation: paper reading / outline / presentation): 40%
• Final report (project implementation: programming / report / presentation / demo): 60%