E0271 AUG 3:1

Computer Graphics

Instructor

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Teaching Assistant

Email:

Department: Computer Science and Automation

Course Time:

Lecture venue:

Detailed Course Page:

Announcements

Brief description of the course

Computer graphics deals with study of technology and techniques for generating and displaying images of natural and synthetic objects. It is an exciting field with a wide range of applications including entertainment, graphical user interfaces, industrial modeling, molecular modeling, surgery planning, and virtual reality. This course will introduce the basic principles, concepts, and algorithms in computer graphics. It is aimed at graduate students of computer science and related disciplines.

Prerequisites

Undergraduate level courses in linear algebra, data structures, algorithms, and programming.

Syllabus

Principles of computer graphics; graphics pipeline; graphics hardware; transformations; viewing; lighting; shading; modeling; selected topics in meshing, subdivision techniques, multi-resolution methods, visualization, ray tracing; individual projects.

Course outcomes

Students will learn mathematical and computational techniques for modeling, representing, and displaying 3D

geometric objects. Students will also learn about current research topics in computer graphics and its applications, particularly to geometry processing and visualization. They will get hands on experience working on one such topic by reading relevant research project and working on a mini project.

Grading policy

Midterm exam 30%

Assignments 35%

Final project 35%

Assignments

Resources