

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Computer Science and Engineering - NOC:Computer Graphics

Subject Co-ordinator - Prof. Samit Bhattacharya

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction to graphics
Lecture 2 - Historical evolution, issues and challenges
Lecture 3 - Basics of a graphics system
Lecture 4 - Introduction to 3D graphics pipeline
Lecture 5 - Introduction and overview on object representation techniques
Lecture 6 - Various Boundary Representation Techniques
Lecture 7 - Spline representation - I
Lecture 8 - Spline representation - II
Lecture 9 - Space representation methods
Lecture 10 - Introduction to modeling transformations
Lecture 11 - Matrix representation and composition of transformations
Lecture 12 - Transformations in 3D
Lecture 13 - Color computation - basic idea
Lecture 14 - Simple lighting model
Lecture 15 - Shading models
Lecture 16 - Intensity mapping
Lecture 17 - Color models and texture synthesis
Lecture 18 - View transformation
Lecture 19 - Projection transformation
Lecture 20 - Windows-to-viewport transformation
Lecture 21 - Clipping introduction and 2D point and line clipping
Lecture 22 - 2D fill-area clipping and 3D clipping
Lecture 23 - Hidden surface removal - I
Lecture 24 - Hidden surface removal - II
Lecture 25 - Scan conversion of basic shapes - I
Lecture 26 - Scan conversion of basic shapes - II
Lecture 27 - Fill area and character scan conversion
Lecture 28 - Anti-aliasing techniques
Lecture 29 - Graphics I/O Devices

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Lecture 30 - Introduction to GPU and Shaders
Lecture 31 - Programming with OpenGL
Lecture 32 - Concluding remarks