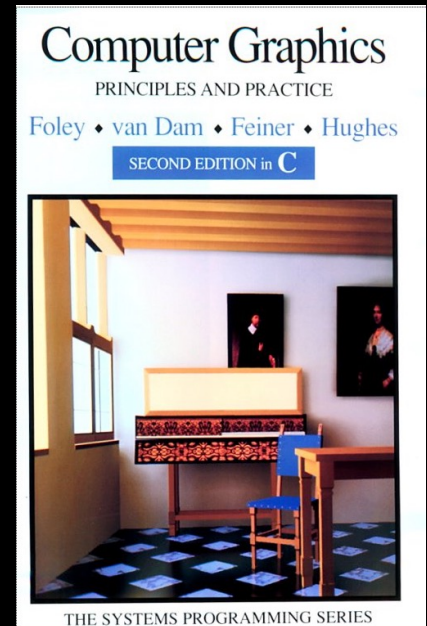
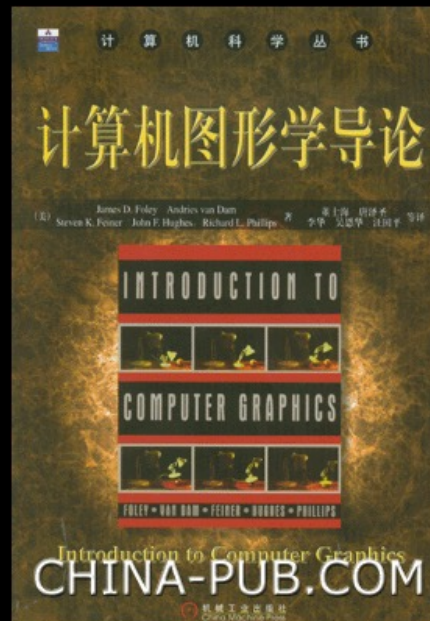
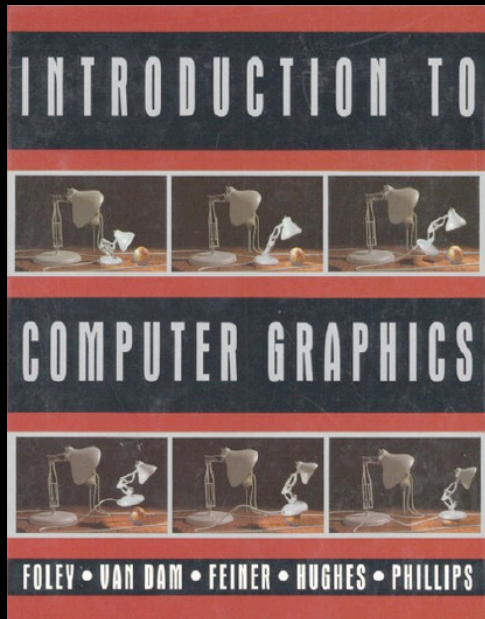


Introduction

Prof. Lizhuang Ma

Reference 1 (Textbook)

- J. D. Foley, A. van Dam, S. K. Feiner, J. F. Hughes, R. L. Phillips. *Introduction to Computer Graphics*, Addison-Wesley, 1993.



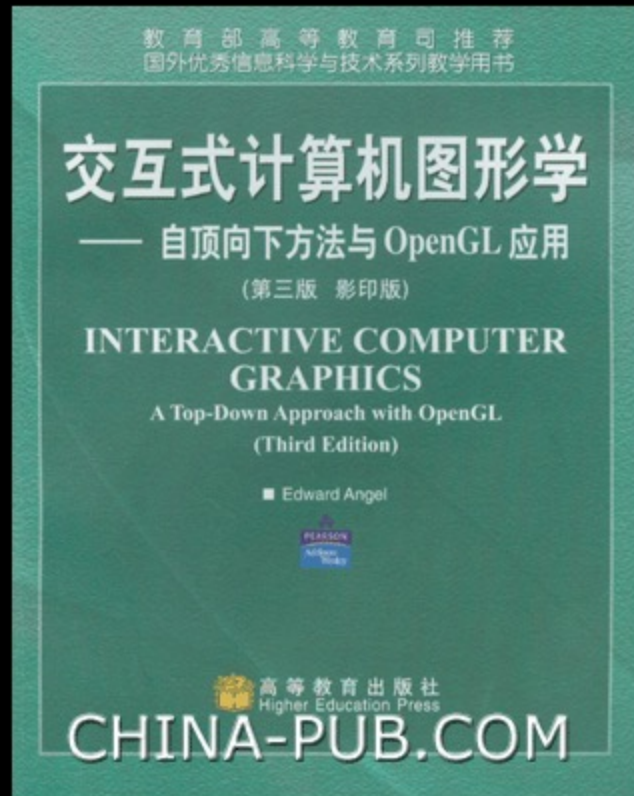
Reference 2

- A. Watt. *3D Computer Graphics, 3rd ed.*, Addison-Wesley, 1999.



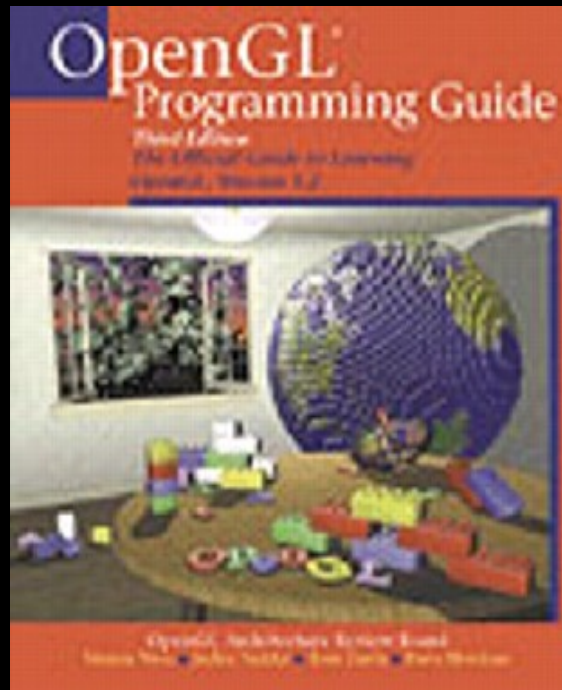
Reference 3

- Interactive computer graphics



Reference 4

- M. Woo, J. Neider, T. Davis, D. Shreiner.
OpenGL® Programming Guide: The Official Guide to
Learning OpenGL, ver. 4rd. ed., Addison-Wesley, 2005



Other Reference

- ACM SIGGRAPH Conference Proceedings
- ACM SIGGRAPH Conference Course Notes
- Eurographics Conference Proceedings
- Pacific Graphics Conference Proceedings
- ACM Transactions on Graphics
- Computer Graphics Forum
- IEEE Computer Graphics and Applications
- IEEE Visualization and Computer Graphics
- The Visual Computer

Pre-requirements

- Linear Algebra
 - Management Mathematics
 - Engineering Mathematics
- Data Structures
- Algorithms
- Programming Skills
 - C/C++
 - Java

Requirements

- To attend
 - 3 scores/time
- To do homeworks
- Term Project (at the end of the term)
- 50% + 50%

Some Research Fields of Computer Graphics

- Geometric modeling
- Solid Modeling
- Web Graphics
- Rendering Techniques
- Illumination Models
- Natural Phenomena
- Texture Models
- Non Photo-realistic Rendering
- Image-based Rendering
- Volume Rendering
- Visualization
- Virtual Reality
- User Interface
- Graphics Hardware
- Computer Animation
- Image Processing
- Computer Vision
- Pattern Recognition
- Medical Graphics
- Artificial Life

What is Computer Graphics ?

- Definition
 - The pictorial *synthesis* of real or imaginary objects from their computer-based models

		OUTPUT	
		descriptions	images
INPUT	descriptions	Computer Graphics	
	images	Computer Vision Pattern Recognition	Image Processing



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The Advantages of Interactive Graphics

- One of the most natural means of communicating with a computer
- A picture is worth than thousand words
- A *moving* picture is worth than thousand *static* ones
 - Movie, motion dynamics
- Graphical User Interface