

Mathematics for Computer Graphics

John Vince explains a comprehensive range of mathematical techniques and problem-solving strategies associated with computer games, computer animation, special effects, virtual reality, CAD and other areas of computer graphics in this completely revised and expanded seventh edition.

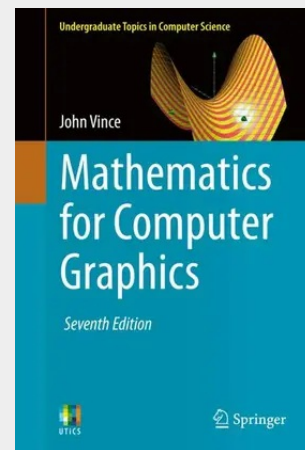
The first five chapters cover a general introduction, number sets, algebra, trigonometry and coordinate systems, which are employed in the following chapters on determinants, vectors, matrix algebra, complex numbers, geometric transforms, quaternion algebra, quaternions in space, interpolation, statistics, curves and patches, analytical geometry and barycentric coordinates. Following this, the reader is introduced to the relatively new subject of geometric algebra, followed by two chapters that introduce differential and integral calculus. Finally, there are chapters on Fourier analysis and Worked examples.

Mathematics for Computer Graphics covers all of the key areas of the subject, including:

- Number sets
- Algebra
- Trigonometry
- Complex numbers
- Coordinate systems
- Determinants
- Vectors
- Quaternions
- Matrix algebra
- Geometric transforms
- Interpolation
- Curves and surfaces
- Analytic geometry
- Statistics
- Barycentric coordinates
- Geometric algebra
- Differential calculus
- Integral calculus
- Fourier analysis

This seventh edition contains approximately 200 worked examples and over 350 colour illustrations, which are central to the author's descriptive writing style. Mathematics for Computer Graphics provides a sound understanding of the mathematics required for computer graphics software and setting the scene for further reading of more advanced books and technical research papers.

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