



The Finite Element Method: Its Basis and Fundamentals, Seventh Edition

By Olok C Zienkiewicz, Robert L Taylor, J.Z. Zhu

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The Finite Element Method: Its Basis and Fundamentals offers a complete introduction to the basis of the finite element method, covering fundamental theory and worked examples in the detail required for readers to apply the knowledge to their own engineering problems and understand more advanced applications.

This edition sees a significant rearrangement of the book's content to enable clearer development of the finite element method, with major new chapters and sections added to cover:

- Weak forms
- Variational forms
- Multi-dimensional field problems
- Automatic mesh generation
- Plate bending and shells
- Developments in meshless techniques

Focusing on the core knowledge, mathematical and analytical tools needed for successful application, *The Finite Element Method: Its Basis and Fundamentals* is the authoritative resource of choice for graduate level students, researchers and professional engineers involved in finite element-based engineering analysis.

- A proven keystone reference in the library of any engineer needing to understand and apply the finite element method in design and development.
- Founded by an influential pioneer in the field and updated in this seventh edition by an author team incorporating academic authority and industrial simulation experience.
- Features reworked and reordered contents for clearer development of the theory, plus new chapters and sections on mesh generation, plate bending, shells, weak forms and variational forms.

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Editorial Review

Review

"...this is a book that you simply cannot afford to be without."--*INTERNATIONAL JOURNAL OF NUMERICAL METHODS IN ENGINEERING*

From the Back Cover

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About the Author

O. C. Zienkiewicz was one of the early pioneers of the finite element method and is internationally recognized as a leading figure in its development and wide-ranging application. He was awarded numerous honorary degrees, medals and awards over his career, including the Royal Medal of the Royal Society and Commander of the British Empire (CBE). He was a founding author of The Finite Element Method books and developed them through six editions over 40 years up to his death in 2009.

R. L. Taylor is Emeritus Professor of Engineering and Professor in the Graduate School, Department of Civil and Environmental Engineering at the University of California, Berkeley.

J. Z. Zhu is a Senior Scientist at ProCAST, ESI Group, USA.

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