



# The Finite Element Method: Its Basis and Fundamentals, Sixth Edition

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

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### Review

It is very difficult to write a book which covers the entire finite element field. ..The authors have made a splendid attempt at a very difficult task. The books remain a tremendous bargain...and are an invaluable guide to the entire field of finite elements. If you are serious about working on finite elements you cannot do without this book.

Mathematics Today, August 2001.

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"..the pre-eminent reference work on finite element analysis." Applied Mechanical Review

"...a very good book...presentation is first class...will be of great assistance to all engineers and scientists interested in the method...a very commendable piece of work." Journal of the British Society for Strain Measurement

### From the Back Cover

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- Enhancements include materials to assist with learning basic theory, more worked examples and exercises
- A new chapter on automatic mesh generation and added materials on shape function development, the direct physical approach to the solution of elasticity problems, expanded description to solve multidomain approximations and the use of higher order elements in solving elasticity and field problems

*The Finite Element Method* maintains the comprehensive style of earlier editions and presents a systematic approach to the solution of problems modelled by linear differential equations.

Together with the second and third self-contained volumes, The Finite Element Method Set provides a formidable resource covering the theory and the application of FEM, including the basis of the method, its application to advanced solid and structural mechanics and to computational fluid dynamics.

### 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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