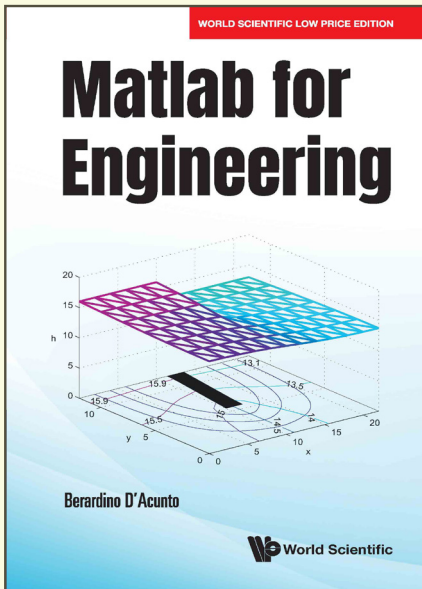


Matlab for Engineering



By **Berardino D'Acunto**
(University of Naples Federico II, Italy)

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ABOUT THE BOOK

This book presents an introduction to Matlab for students and professionals working in the field of engineering and other scientific and technical sectors, who have an interest or need to apply Matlab as a tool for undertaking simulations and formulating solutions for the problems concerned.

The presentation is highly accessible, employing a step-by-step approach in discussing selected problems: deduction of the mathematical model from the physical phenomenon, followed by analysis of the solutions with Matlab. Since a physical phenomenon takes place in space and time, the corresponding mathematical model involves partial differential equations. For this reason, the book is dedicated to numerically solving these equations with the Finite Element Method and Finite Difference Method. Throughout, the text presents numerous examples and exercises with detailed worked solutions. *Matlab for Engineering* is a useful desktop reference for undergraduates and scientists alike in real world problem solving.

READERSHIP

Students of university courses on Computational Methods and Applied Mathematics for Engineering students, and Mathematics, Physics, and Chemistry students. Also ideal for industry technicians and professionals interested in learning how to use Matlab.

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- Function Files
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- Diffusion and Convection
- Introduction to the Finite Element Method
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ABOUT THE AUTHOR

Berardino D’Acunto is professor of Mathematical Physics at the Department of Mathematics and Applications “Renato Caccioppoli” at the University of Naples Federico II. His research interest is mainly devoted to mathematical modelling of complex biological systems. In particular, he introduced and discussed the free boundary approach in the mathematical modelling of multispecies biofilms.

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