COMSOL 5 for Engineers

By Mehrzad Tabatabaian

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COMSOL 5 Multiphysics is one of the most valuable software modeling tools for engineers and scientists. This book, an updated edition of the previously published, COMSOL for Engineers, covers COMSOL 5 which now includes a revolutionary tool, the Application Builder. This component enables users to build apps based on COMSOL models that can be run on almost any operating system (Windows, MAC, mobile/iOS, etc.). Designed for engineers from various disciplines, the book introduces multiphysics modeling techniques and examples accompanied by practical applications using COMSOL5.x. The main objective is to introduce readers to use COMSOL as an engineering tool for modeling, by solving examples that could become a guide for modeling similar or more complicated problems. The book provides a collection of examples and modeling guidelines through which readers can build their own models. The mathematical fundamentals, engineering principles, and design criteria are presented as integral parts of the examples. At the end of chapters are references that contain more in-depth physics, technical information, and data; these are referred to throughout the book and used in the examples. COMSOL 5 for Engineers could be used to complement another text that provides background training in engineering computations and methods. Exercises are provided at the end of the text for use in adoption situations.[All companion files are available for downloading with Amazon Order number by writing to info@merclearning.com]

Features
+Companion disc with executable copies of each model and their related animations[All companion files are available for downloading with Amazon Order number by writing to info@merclearning.com]
+Expands the Finite Element Method (FEM) theory and adds more examples from the original edition
+Outlines the new features in COMSOL5, the graphical user interface (GUI), and how to build a COMSOL app for models
+Includes apps for selected model examples-with parameterization of these models
+Features new and modified, solved model examples, in addition to the models provided in the original edition

Brief Table of Contents
1: Introduction to the Finite Element Method. 2. COMSOL 5 and Application

Builder. 3: Model Examples for Flexible Structures, Parts, and Assembly. 4: Model Examples for Internal Fluid Flows: Steady and Transient. 5: Model Examples for Heat Transfer in Media: Steady and Transient. 6: Model Examples for Electrical Circuits and Generator. 7: Model Examples for Complex-Multiphysics Systems. Exercises. Suggested Further Readings. Trademark References. Bibliography. Index.

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About the Author
Mehrzad Tabatabaian holds a PhD from McGill University and is currently the chairman of the Energy Efficiency and Renewable Energy Division at the British Columbia Institute of Technology. He has written several books, numerous journal articles, has registered patents, and currently teaches courses in renewable energy and thermal engineering.

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About the Author
Mehrzad Tabatabaian holds a PhD from McGill University and is currently the chairman of the Energy Efficiency and Renewable Energy Division at the British Columbia Institute of Technology. He has written

several books, numerous journal articles, has registered patents, and currently teaches courses in renewable energy and thermal engineering.

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