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**Numerical Methods for Engineers** The fifth edition of *Numerical Methods for Engineers with Software and Programming Applications* continues its tradition of excellence. The revision retains the successful pedagogy of the prior editions. Chapra and Canale's unique approach opens each part of the text with sections called Motivation, Mathematical Background, and Orientation, preparing the student for what is to come in a motivating and engaging manner. Each part closes with an Epilogue containing sections called Trade-Offs, Important Relationships and Formulas, and Advanced Methods and Additional References. Much more than a summary, the Epilogue deepens understanding of what has been learned and provides a peek into more advanced methods. Users will find use of software packages, specifically MATLAB and Excel with VBA. This includes material on developing MATLAB m-files and VBA macros. Also, many, many more challenging problems are included. The expanded breadth of engineering disciplines covered is especially evident in the problems, which now cover such areas as biotechnology and biomedical engineering.

*Numerical Methods in Engineering with Python 3* Cambridge University Press Provides an introduction to numerical methods for students in engineering. It uses Python 3, an easy-to-use, high-level programming language.

*Numerical Methods for Engineers and Scientists* CRC Press Emphasizing the finite difference approach for solving differential equations, the second edition of *Numerical Methods for Engineers and Scientists* presents a methodology for systematically constructing individual computer programs. Providing easy access to accurate solutions to complex scientific and engineering problems, each chapter begins with objectives, a discussion of a representative application, and an outline of special features, summing up with a list of tasks students should be able to complete after reading the chapter- perfect for use as a study guide or for review. The AIAA Journal calls the book "...a good, solid instructional text on the basic tools of numerical analysis." An Introduction to Numerical Methods and Analysis *John Wiley & Sons* Praise for the First Edition ". . . outstandingly appealing with regard to its style, contents, considerations of requirements of practice, choice of examples, and exercises." —Zentrablatt Math ". . . carefully structured with many detailed worked examples . . ." —The Mathematical Gazette ". . . an up-to-date and user-friendly account . . ." —Mathematika

An Introduction to Numerical Methods and Analysis addresses the mathematics underlying approximation and scientific computing and successfully explains where approximation methods come from, why they sometimes work (or don't work), and when to use one of the many techniques that are available. Written in a style that emphasizes readability and usefulness for the numerical methods novice, the book begins with basic, elementary material and gradually builds up to more advanced topics. A selection of concepts required for the study of computational mathematics is introduced, and simple approximations using Taylor's Theorem are also treated in some depth. The text includes exercises that run the gamut from simple hand computations, to challenging derivations and minor proofs, to programming exercises. A greater emphasis on applied exercises as well as the cause and effect associated with numerical mathematics is featured throughout the book. An Introduction to Numerical Methods and Analysis is the ideal text for students in advanced undergraduate mathematics and engineering courses who are interested in gaining an understanding of numerical methods and numerical analysis.

**EBOOK: Applied Numerical Methods with MatLab** McGraw Hill **EBOOK: Applied Numerical Methods with MatLab** Pipeline Engineering ebook Collection Ultimate CD *Gulf Professional Publishing* Pipeline Engineering ebook Collection contains 6 of our best-selling titles, providing the ultimate reference for every pipeline professional's library. Get access to over 3000 pages of reference material, at a fraction of the price of the hard-copy books. This CD contains the complete ebooks of the following 6 titles: McAllister, Pipeline Rules of Thumb 6th Edition, 9780750678520 Muhlbauer, Pipeline Risk Management Manual 3rd Edition, 9780750675796 Parker, Pipeline Corrosion & Cathodic Protection 3rd Edition, 9780872011496 Escoe, Piping & Pipeline Assessment Guide V1, 9780750678803 Parisher, Pipe Drafting & Design 2nd Edition, 9780750674393 Farshad, Plastic Pipe Systems: Failure Investigation and Diagnosis, 9781856174961 \*Six fully searchable titles on one CD providing instant access to the ULTIMATE library of engineering materials for pipeline professionals \*3000 pages of practical and theoretical pipeline information in one portable package. \* Incredible value at a fraction of the cost of the print books

*Numerical Methods for Engineers and Scientists Using MATLAB®* CRC Press This book provides a pragmatic, methodical and easy-to-follow presentation of numerical methods and their effective implementation using MATLAB, which is introduced at the outset. The author introduces techniques for solving equations of a single variable and systems of equations, followed by curve fitting and interpolation of data. The book also provides detailed coverage of numerical differentiation and integration, as well as numerical solutions of initial-value and boundary-value problems. The author then presents the numerical solution of the matrix eigenvalue problem, which entails approximation of a few or all eigenvalues of a matrix. The last chapter is devoted to numerical solutions of partial differential equations that arise in engineering and science. Each method is accompanied by at least one fully worked-out example showing essential details involved in preliminary hand calculations, as well as computations in MATLAB.

*Numerical Methods for Engineers and Scientists* Wiley *Numerical Methods for Engineers and Scientists*, 3rd Edition provides engineers with a more concise treatment of the essential topics of numerical methods while emphasizing MATLAB use. The third edition includes a new chapter, with all new content, on Fourier Transform and a new chapter on Eigenvalues (compiled from existing Second Edition content). The focus is placed on the use of anonymous functions instead of inline functions and the uses of subfunctions and nested functions. This updated edition includes 50% new or updated Homework Problems, updated examples, helping engineers test their understanding and reinforce key concepts.

*Numerical Solution of Stochastic Differential Equations* Springer Science & Business Media The numerical analysis of stochastic differential equations (SDEs) differs significantly from that of ordinary differential equations. This book provides an easily accessible introduction to SDEs, their applications and the numerical methods to solve such equations. From the reviews: "The authors draw upon their own research and experiences in obviously many disciplines... considerable time has obviously been spent writing this in the simplest language possible." --ZAMP

**ADVANCED ENGINEERING MATHEMATICS: STUDENT SOLUTIONS MANUAL, 8TH ED** John Wiley & Sons Market\_Desc: · Engineers· Students· Professors in Engineering Math Special Features: · New ideas are emphasized, such as stability, error estimation, and structural problems of algorithms· Focuses on the basic principles, methods and results in Modeling, solving and interpreting problems· More emphasis on applications and qualitative methods About The Book: The book introduces engineers, computer scientists, and physicists to advanced math topics as they relate to practical problems. The material is arranged into seven independent parts: ODE; Linear Algebra, Vector calculus; Fourier Analysis and Partial Differential Equations; Complex Analysis; Numerical methods; Optimization, graphs; Probability and Statistics.

*Numerical Methods for Engineers* CRC Press Although pseudocodes, Mathematica, and MATLAB illustrate how algorithms work, designers of engineering systems write the vast majority of large computer programs in the Fortran language. Using Fortran 95 to solve a range of practical engineering problems, *Numerical Methods for Engineers*, Second Edition provides an introduction to numerical methods, *Numerical Methods with Chemical Engineering Applications* Cambridge University Press This undergraduate textbook integrates the teaching of numerical methods and programming with problems from core chemical engineering subjects. *Applied Engineering Mathematics* CRC Press Undergraduate engineering students need good mathematics skills. This textbook supports this need by placing a strong emphasis on visualization and the methods and tools needed across the whole of engineering. The visual approach is emphasized, and excessive proofs and derivations are avoided. The visual images explain and teach the mathematical methods. The book's website provides dynamic and interactive codes in Mathematica to accompany the examples for the reader to explore on their own with Mathematica or the free Computational Document Format player, and it provides access for instructors to a solutions manual. Strongly emphasizes a visual approach to engineering mathematics Written for years 2 to 4 of an engineering degree course Website offers support with dynamic and interactive Mathematica code and instructor's solutions manual

Brian Vick is an associate professor at Virginia Tech in the United States and is a longtime teacher and researcher. His style has been developed from teaching a variety of engineering and mathematical courses in the areas of heat transfer, thermodynamics, engineering design, computer programming, numerical analysis, and system dynamics at both undergraduate and graduate levels. eResource material is available for this title at [www.crcpress.com/9780367432768](http://www.crcpress.com/9780367432768).

*Numerical Methods (As Per Anna University)* New Age International About the Book: This comprehensive textbook covers material for one semester course on Numerical Methods (MA 1251) for B.E./ B. Tech. students of Anna University. The emphasis in the book is on the presentation of fundamentals and theoretical concepts in an intelligible and easy to understand manner. The book is written as a textbook rather than as a problem/guide book. The textbook offers a logical presentation of both the theory and techniques for problem solving to motivate the students in the study and application of Numerical Methods. Examples and Problems in Exercises are used to explain. *Numerical Analysis* Springer Science & Business Media Revised and updated, this second edition of Walter Gautschi's successful *Numerical Analysis* explores computational methods for problems arising in the areas of classical analysis, approximation theory, and ordinary differential equations, among others. Topics included in the book are presented with a view toward stressing basic principles and maintaining simplicity and teachability as far as possible, while subjects requiring a higher level of technicality are referenced in detailed bibliographic notes at the end of each chapter. Readers are thus given the guidance and opportunity to pursue advanced modern topics in more depth. Along with updated references, new biographical notes, and enhanced notational clarity, this second edition includes the expansion of an already large collection of exercises and assignments, both the kind that deal with theoretical and practical aspects of the subject and those requiring machine computation and the use of mathematical software. Perhaps most notably, the edition also comes with a complete solutions manual, carefully developed and polished by the author, which will serve as an exceptionally valuable resource for instructors.

*Numerical Methods for Engineers* CRC Press Although pseudocodes, Mathematica(R), and MATLAB(R) illustrate how algorithms work, designers of engineering systems write the vast majority of large computer programs in the Fortran language. Using Fortran 95 to solve a range of practical engineering problems, *Numerical Methods for Engineers*, Second Edition provides an introduction to numerical methods, incorporating theory with concrete computing exercises and programmed examples of the techniques presented. Covering a wide range of numerical applications that have immediate relevancy for engineers, the book describes forty-nine programs in Fortran 95. Many of the programs discussed use a sub-program library called nm\_lib that holds twenty-three subroutines and functions. In addition, there is a precision module that controls the precision of calculations. Well-respected in their field, the authors discuss a variety of numerical topics related to engineering. Some of the chapter features include... The numerical solution of sets of linear algebraic equations Roots of single nonlinear equations and sets of nonlinear equations Numerical quadrature, or numerical evaluation of integrals An introduction to the

solution of partial differential equations using finite difference and finite element approaches Describing concise programs that are constructed using sub-programs wherever possible, this book presents many different contexts of numerical analysis, forming an excellent introduction to more comprehensive subroutine libraries such as the numerical algorithm group (NAG). Numerical Methods and Optimization An Introduction *CRC Press* For students in industrial and systems engineering (ISE) and operations research (OR) to understand optimization at an advanced level, they must first grasp the analysis of algorithms, computational complexity, and other concepts and modern developments in numerical methods. Satisfying this prerequisite, Numerical Methods and Optimization: An Intro Numerical Methods for Chemical Engineers Using Excel, VBA, and MATLAB *CRC Press* While teaching the Numerical Methods for Engineers course over the last 15 years, the author found a need for a new textbook, one that was less elementary, provided applications and problems better suited for chemical engineers, and contained instruction in Visual Basic® for Applications (VBA). This led to six years of developing teaching notes that have been enhanced to create the current textbook, Numerical Methods for Chemical Engineers Using Excel®, VBA, and MATLAB®. Focusing on Excel gives the advantage of it being generally available, since it is present on every computer—PC and Mac—that has Microsoft Office installed. The VBA programming environment comes with Excel and greatly enhances the capabilities of Excel spreadsheets. While there is no perfect programming system, teaching this combination offers knowledge in a widely available program that is commonly used (Excel) as well as a popular academic software package (MATLAB). Chapters cover nonlinear equations, Visual Basic, linear algebra, ordinary differential equations, regression analysis, partial differential equations, and mathematical programming methods. Each chapter contains examples that show in detail how a particular numerical method or programming methodology can be implemented in Excel and/or VBA (or MATLAB in chapter 10). Most of the examples and problems presented in the text are related to chemical and biomolecular engineering and cover a broad range of application areas including thermodynamics, fluid flow, heat transfer, mass transfer, reaction kinetics, reactor design, process design, and process control. The chapters feature "Did You Know" boxes, used to remind readers of Excel features. They also contain end-of-chapter exercises, with solutions provided. Mathematical Methods for Physics and Engineering A Comprehensive Guide *Cambridge University Press* The third edition of this highly acclaimed undergraduate textbook is suitable for teaching all the mathematics for an undergraduate course in any of the physical sciences. As well as lucid descriptions of all the topics and many worked examples, it contains over 800 exercises. New stand-alone chapters give a systematic account of the 'special functions' of physical science, cover an extended range of practical applications of complex variables, and give an introduction to quantum operators. Further tabulations, of relevance in statistics and numerical integration, have been added. In this edition, half of the exercises are provided with hints and answers and, in a separate manual available to both students and their teachers, complete worked solutions. The remaining exercises have no hints, answers or worked solutions and can be used for unaided homework; full solutions are available to instructors on a password-protected web site, [www.cambridge.org/9780521679718](http://www.cambridge.org/9780521679718). Numerical Methods and Methods of Approximation in Science and Engineering *CRC Press* Numerical Methods and Methods of Approximation in Science and Engineering prepares students and other readers for advanced studies involving applied numerical and computational analysis. Focused on building a sound theoretical foundation, it uses a clear and simple approach backed by numerous worked examples to facilitate understanding of numerical methods and their application. Readers will learn to structure a sequence of operations into a program, using the programming language of their choice; this approach leads to a deeper understanding of the methods and their limitations. Features: Provides a strong theoretical foundation for learning and applying numerical methods Takes a generic approach to engineering analysis, rather than using a specific programming language Built around a consistent, understandable model for conducting engineering analysis Prepares students for advanced coursework, and use of tools such as FEA and CFD Presents numerous detailed examples and problems, and a Solutions Manual for instructors Engineering Analysis *Springer* The purpose of this book is to introduce undergraduate students of engineering and the physical sciences to applied mathematics often essential to the successful solutions of practical problems. The topics selected are a review of Differential Equations, Laplace Transforms, Matrices and Determinants, Vector Analysis, Partial Differential Equations, Complex Variables, and Numerical Methods. The style of presentation is such that the step-by-step derivations may be followed by the reader with minimum assistance. Liberal use of approximately 160 examples and 1000 homework problems serves to aid students in their study. This book presents mathematical topics using derivations (similar to the technique used in engineering textbooks) rather than theorems and proofs typically found in textbooks written by mathematicians. Engineering Analysis is uniquely qualified to help apply mathematics to physical applications (spring-mass systems, electrical circuits, conduction, diffusion, etc.), in a manner as efficient and understandable as possible. This book was written to provide for an additional mathematics course after differential equations, to permit several topics to be introduced in one semester, and to make the material comprehensible to undergraduates. The book comes with an Instructor Solutions Manual, available on request, that provides solutions to all problems and also a Student Solutions Manual that provides solutions to select problems (the answers to which are given at the back of the book). Solutions Manual to Accompany Applied Mathematics and Modeling for Chemical Engineers *John Wiley & Sons* This book is a Solutions Manual to Accompany Applied Mathematics and Modeling for Chemical Engineers. There are many examples provided as homework in the original text and the solution manual provides detailed solutions of many of these problems that are in the parent book Applied Mathematics and Modeling for Chemical Engineers. Ebook: Vector Mechanics Engineering: Dynamics SI *McGraw Hill* Ebook: Vector Mechanics Engineering: Dynamics SI Numerical Methods Fundamentals and Applications *Cambridge University Press* Offers a comprehensive textbook for a course in numerical methods, numerical analysis and numerical techniques for undergraduate engineering students. Fundamentals of Engineering Numerical Analysis *Cambridge University Press* Since the original publication of this book, available computer power has increased greatly. Today, scientific computing is playing an ever more prominent role as a tool in scientific discovery and engineering analysis. In this second edition, the key addition is an introduction to the finite element method. This is a widely used technique for solving partial differential equations (PDEs) in complex domains. This text introduces numerical methods and shows how to develop, analyse, and use them. Complete MATLAB programs for all the worked examples are now available at [www.cambridge.org/Moin](http://www.cambridge.org/Moin), and more than 30 exercises have been added. This thorough and practical book is intended as a first course in numerical analysis, primarily for new graduate students in engineering and physical science. Along with mastering the fundamentals of numerical methods, students will learn to write their own computer programs using standard numerical methods. Student Solutions Manual and Study Guide for Numerical Analysis *Cengage Learning* The Student Solutions Manual contains worked-out solutions to many of the problems. It also illustrates the calls required for the programs using the algorithms in the text, which is especially useful for those with limited programming experience. Python Programming and Numerical Methods A Guide for Engineers and Scientists *Academic Press* Python Programming and Numerical Methods: A Guide for Engineers and Scientists introduces programming tools and numerical methods to engineering and science students, with the goal of helping the students to develop good computational problem-solving techniques through the use of numerical methods and the Python programming language. Part One introduces fundamental programming concepts, using simple examples to put new concepts quickly into practice. Part Two covers the fundamentals of algorithms and numerical analysis at a level that allows students to quickly apply results in practical settings. Includes tips, warnings and "try this" features within each chapter to help the reader develop good programming practice Summaries at the end of each chapter allow for quick access to important information Includes code in Jupyter notebook format that can be directly run online Numerical Methods with Programs in C *McGraw-Hill Education* Designed for the first course on Numerical Methods, this book provides a strong foundation on the subject by giving a wide range of methods that an engineering student encounters in real life. it follows a mathematical and computer-oriented approach facilitating problem solving. Engineering Design Optimization *Cambridge University Press* A rigorous yet accessible graduate textbook covering both fundamental and advanced optimization theory and algorithms. An Introduction to Numerical Analysis for Electrical and Computer Engineers *John Wiley & Sons* This book is an introduction to numerical analysis and intends to strike a balance between analytical rigor and the treatment of particular methods for engineering problems Emphasizes the earlier stages of numerical analysis for engineers with real-life problem-solving solutions applied to computing and engineering Includes MATLAB oriented examples An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. Boundary Value Problems and Partial Differential Equations *Academic Press* Boundary Value Problems, Sixth Edition, is the leading text on boundary value problems and Fourier series for professionals and students in engineering, science, and mathematics who work with partial differential equations. In this updated edition, author David Powers provides a thorough overview of solving boundary value problems involving partial differential equations by the methods of separation of variables. Additional techniques used include Laplace transform and numerical methods. The book contains nearly 900 exercises ranging in difficulty from basic drills to advanced problem-solving exercises. Professors and students agree that Powers is a master at creating examples and exercises that skillfully illustrate the techniques used to solve science and engineering problems. Ancillary list: Online SSM- <http://www.elsevierdirect.com/product.jsp?isbn=9780123747198> Online ISM- <http://textbooks.elsevier.com/web/manuals.aspx?isbn=9780123747198> Companion site, Ebook- <http://www.elsevierdirect.com/companion.jsp?ISBN=9780123747198> Student Solution Manual for Sixth Edition - <https://www.elsevier.com/books/student-solutions-manual-boundary-value-problems/powers/978-0-12-375664-0> New animations and graphics of solutions, additional exercises and chapter review questions on the web Nearly 900 exercises ranging in difficulty from basic drills to advanced problem-solving exercises Many exercises based on current engineering applications Applied Engineering Analysis *John Wiley & Sons* Applied Engineering Analysis Tai-Ran Hsu, San Jose State University, USA A resource book applying mathematics to solve engineering problems Applied Engineering Analysis is a concise textbook which demonstrates how to apply mathematics to solve engineering problems. It begins with an overview of engineering analysis and an introduction to mathematical modeling, followed by vector calculus, matrices and linear algebra, and applications of first and second order differential equations. Fourier series and Laplace transform are also covered, along with partial differential equations, numerical solutions to nonlinear and differential equations and an introduction to finite element analysis. The book also covers statistics with applications to design and statistical process controls. Drawing on the author's extensive industry and teaching experience, spanning 40 years, the book takes a pedagogical approach and includes examples, case studies and end of chapter problems. It is also accompanied by a website hosting a solutions manual and PowerPoint slides for instructors. Key features: Strong emphasis on deriving equations, not just solving given equations, for the solution of engineering problems. Examples and problems of a practical nature with illustrations to enhance student's self-learning. Numerical methods and techniques, including finite element analysis. Includes coverage of statistical methods for probabilistic design analysis of structures and statistical process control (SPC). Applied Engineering Analysis is a resource book for engineering students and professionals to learn how to apply the mathematics experience and skills that they have already acquired to their engineering profession for innovation, problem solving, and decision making. Applied Mathematics And Modeling For Chemical Engineers *John Wiley & Sons* This Second Edition of the go-to reference combines the classical analysis and modern applications of applied mathematics for chemical engineers. The book introduces traditional techniques for solving ordinary differential equations (ODEs), adding new material on approximate solution methods such as perturbation techniques and elementary numerical solutions. It also includes analytical methods to deal with important classes of finite-difference equations. The last half discusses numerical solution techniques and partial differential equations (PDEs). The reader will then be equipped to apply mathematics in the formulation of problems in chemical engineering. Like the first edition, there are many examples provided as homework and worked examples. An Introduction to MATLAB® Programming and Numerical Methods for Engineers *Academic Press* Assuming no prior background in linear algebra or real analysis, An Introduction to MATLAB® Programming and Numerical Methods for Engineers enables you to develop good computational problem solving techniques through the use of numerical methods and the MATLAB®

programming environment. Part One introduces fundamental programming concepts, using simple examples to put new concepts quickly into practice. Part Two covers the fundamentals of algorithms and numerical analysis at a level allowing you to quickly apply results in practical settings. Tips, warnings, and "try this" features within each chapter help the reader develop good programming practices Chapter summaries, key terms, and functions and operators lists at the end of each chapter allow for quick access to important information At least three different types of end of chapter exercises — thinking, writing, and coding — let you assess your understanding and practice what you've learned EBOOK: Vector Mechanics for Engineers: Dynamics (SI) *McGraw Hill* Continuing in the spirit of its successful previous editions, the tenth edition of Beer, Johnston, Mazurek, and Cornwell's Vector Mechanics for Engineers provides conceptually accurate and thorough coverage together with a significant refreshment of the exercise sets and online delivery of homework problems to your students. Nearly forty percent of the problems in the text are changed from the previous edition. The Beer/Johnston textbooks introduced significant pedagogical innovations into engineering mechanics teaching. The consistent, accurate problem-solving methodology gives your students the best opportunity to learn statics and dynamics. At the same time, the careful presentation of content, unmatched levels of accuracy, and attention to detail have made these texts the standard for excellence.

EBOOK: Vector Mechanics for Engineers: Statics (SI units) *McGraw Hill* Target Audience This text is designed for the first course in Statics offered in the sophomore year. Overview The main objective of a first course in mechanics should be to develop in the engineering student the ability to analyze any problem in a simple and logical manner and to apply to its solution a few, well-understood, basic principles. This text is designed to help the instructor achieve this goal. Vector analysis is introduced early in the text and is used in the presentation and discussion of the fundamental principles of mechanics. Vector methods are also used to solve many problems, particularly three-dimensional problems where these techniques result in a simpler and more concise solution. The emphasis in this text, however, remains on the correct understanding of the principles of mechanics and on their application to the solution of engineering problems, and vector analysis is presented chiefly as a convenient tool. In order to achieve the goal of being able to analyze mechanics problems, the text employs the following pedagogical strategy: Practical applications are introduced early. New concepts are introduced simply. Fundamental principles are placed in simple contexts. Students are given extensive practice through: sample problems, special sections entitled Solving Problems on Your Own, extensive homework problem sets, review problems at the end of each chapter, and computer problems designed to be solved with computational software. Resources Supporting This Textbook Instructor's and Solutions Manual features typeset, one-per-page solutions to the end of chapter problems. It also features a number of tables designed to assist instructors in creating a schedule of assignments for their course. The various topics covered in the text have been listed in Table I and a suggested number of periods to be spent on each topic has been indicated. Table II prepares a brief description of all groups of problems. Sample lesson schedules are shown in Tables III, IV, and V, together with various alternative lists of assigned homework problems. For additional resources related to users of this SI edition, please visit <http://www.mheducation.asia/olc/beerjohnston>. McGraw-Hill Connect Engineering, a web-based assignment and assessment platform, is available at <http://www.mhhe.com/beerjohnston>, and includes algorithmic problems from the text, Lecture PowerPoints, an image bank, and animations. Hands-on Mechanics is a website designed for instructors who are interested in incorporating three-dimensional, hands-on teaching aids into their lectures. Developed through a partnership between the McGraw-Hill Engineering Team and the Department of Civil and Mechanical Engineering at the United States Military Academy at West Point, this website not only provides detailed instructions for how to build 3-D teaching tools using materials found in any lab or local hardware store, but also provides a community where educators can share ideas, trade best practices, and submit their own original demonstrations for posting on the site. Visit <http://www.handsonmechanics.com>. McGraw-Hill Tegrity, a service that makes class time available all the time by automatically capturing every lecture in a searchable format for students to review when they study and complete assignments. To learn more about Tegrity watch a 2-minute Flash demo at <http://tegritycampus.mhhe.com>.

Numerical Methods *Brooks Cole* This text emphasizes the intelligent application of approximation techniques to the type of problems that commonly occur in engineering and the physical sciences. The authors provide a sophisticated introduction to various appropriate approximation techniques; they show students why the methods work, what type of errors to expect, and when an application might lead to difficulties; and they provide information about the availability of high-quality software for numerical approximation routines The techniques covered in this text are essentially the same as those covered in the Sixth Edition of these authors' top-selling Numerical Analysis text, but the emphasis is much different. In Numerical Methods, Second Edition, full mathematical justifications are provided only if they are concise and add to the understanding of the methods. The emphasis is placed on describing each technique from an implementation standpoint, and on convincing the student that the method is reasonable both mathematically and computationally. Student Solutions Manual for Devore/Farnum/Doi's Applied Statistics for Engineers and Scientists, 3rd *Cengage Learning* Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. Open-Channel Flow *Springer Science & Business Media* Open Channel Flow, 2nd edition is written for senior-level undergraduate and graduate courses on steady and unsteady open-channel flow. The book is comprised of two parts: Part I covers steady flow and Part II describes unsteady flow. The second edition features considerable emphasis on the presentation of modern methods for computer analyses; full coverage of unsteady flow; inclusion of typical computer programs; new problem sets and a complete solution manual for instructors. Excel for Scientists and Engineers Numerical Methods *John Wiley & Sons* Learn to fully harness the power of Microsoft Excel(r) to perform scientific and engineering calculations With this text as your guide, you can significantly enhance Microsoft Excel's(r) capabilities to execute the calculations needed to solve a variety of chemical, biochemical, physical, engineering, biological, and medicinal problems. The text begins with two chapters that introduce you to Excel's Visual Basic for Applications (VBA) programming language, which allows you to expand Excel's(r) capabilities, although you can still use the text without learning VBA. Following the author's step-by-step instructions, here are just a few of the calculations you learn to perform: \* Use worksheet functions to work with matrices \* Find roots of equations and solve systems of simultaneous equations \* Solve ordinary differential equations and partial differential equations \* Perform linear and non-linear regression \* Use random numbers and the Monte Carlo method This text is loaded with examples ranging from very basic to highly sophisticated solutions. More than 100 end-of-chapter problems help you test and put your knowledge to practice solving real-world problems. Answers and explanatory notes for most of the problems are provided in an appendix. The CD-ROM that accompanies this text provides several useful features: \* All the spreadsheets, charts, and VBA code needed to perform the examples from the text \* Solutions to most of the end-of-chapter problems \* An add-in workbook with more than twenty custom functions This text does not require any background in programming, so it is suitable for both undergraduate and graduate courses. Moreover, practitioners in science and engineering will find that this guide saves hours of time by enabling them to perform most of their calculations with one familiar spreadsheet package.