Mathcad Electrical Engineering

Developed at UC Berkeley more than two decades ago, SPICE software is the tool of choice for performing nominal analysis for electronic circuits. However, attempts to use SPICE for worst-case analysis (WCA) reveal several shortcomings, including: a 400-sample limit for Monte Carlo Analysis (MCA); lack of Rot-Sum-Square (RSS) analysis, asymmetric component tolerances, Fast MCA, or AC sensitivity capability; no single-run method of tolerancing inputs; and no predefined beta (skewed) or bimodal (gapped) distributions for MCA. While several commercial versions of SPICE may have corrected some of these limitations, they still remain rather expensive. Based on extensive experience in WCA, Node List Tolerance Analysis: Enhancing SPICE Capabilities with Mathcad presents software methods that overcome the many limitations of SPICE WCA using less expensive tools. The author demonstrates correct and incorrect methods of extreme value analysis, demonstrates the necessity of tolerancing multiple inputs, and provides output histograms for unusual inputs. He also shows how to detect non-monotonic components, which cause severe errors in all WCA methods except MCA. The book also includes demonstrations of tolerance analysis of three-phase AC circuits. Node List Tolerance Analysis: Enhancing SPICE Capabilities with Mathcad requires no circuit analysis mathematics, supplying original methods of nominal circuit analysis using node lists. It is ideal for performing effective analyses while adhering to a budget.

Designed to support interactive teaching and computer assisted self-learning, this second edition of Electrical Energy Conversion and Transport is thoroughly updated to address the recent environmental effects of electric power generation and transmission, which have become more important together with the deregulation of the industry. New content explores different power generation methods, including renewable energy generation (solar, wind, fuel cell) and includes new sections that discuss the upcoming Smart Grid and the distributed power generation using renewable energy generation, making the text essential reading material for students and practicing engineers.

This CD-ROM contains 3 Mathcad electronic books covering key areas in electrical engineering. It provides hundreds of standard calculation procedures, formulae and reference tables used by electrical engineers.

The majority of professors have never had a formal course in education, and the most common method for learning how to teach is on-the-job training. This represents a challenge for disciplines with ever more complex subject matter, and a lost opportunity when new active learning approaches to education are yielding dramatic improvements in student learning and retention. This book aims to cover all aspects of teaching engineering and other technical subjects. It presents both practical matters and educational theories in a format useful for both new and experienced teachers. It is organized to start with specific, practical teaching applications and then leads to psychological and educational theories. The "practical orientation" section explains how to develop objectives and then use them to enhance student learning, and the "theoretical orientation" section discusses the theoretical basis for learning/teaching and its impact on students. Written mainly for PhD students and professors in all areas of

engineering, the book may be used as a text for graduate-level classes and professional workshops or by professionals who wish to read it on their own. Although the focus is engineering education, most of this book will be useful to teachers in other disciplines. Teaching is a complex human activity, so it is impossible to develop a formula that guarantees it will be excellent. However, the methods in this book will help all professors become good teachers while spending less time preparing for the classroom. This is a new edition of the well-received volume published by McGraw-Hill in 1993. It includes an entirely revised section on the Accreditation Board for Engineering and Technology (ABET) and new sections on the characteristics of great teachers, different active learning methods, the application of technology in the classroom (from clickers to intelligent tutorial systems), and how people learn.

The use of MATLAB is ubiquitous in the scientific and engineering communities today, and justifiably so. Simple programming, rich graphic facilities, built-in functions, and extensive toolboxes offer users the power and flexibility they need to solve the complex analytical problems inherent in modern technologies. The ability to use MATLAB effectively has become practically a prerequisite to success for engineering professionals. Like its best-selling predecessor, Electronics and Circuit Analysis Using MATLAB, Second Edition helps build that proficiency. It provides an easy, practical introduction to MATLAB and clearly demonstrates its use in solving a wide range of electronics and circuit analysis problems. This edition reflects recent MATLAB enhancements, includes new material, and provides even more examples and exercises. New in the Second Edition: Thorough revisions to the first three chapters that incorporate additional MATLAB functions and bring the material up to date with recent changes to MATLAB A new chapter on electronic data analysis Many more exercises and solved examples New sections added to the chapters on two-port networks, Fourier analysis, and semiconductor physics MATLAB m-files available for download Whether you are a student or professional engineer or technician, Electronics and Circuit Analysis Using MATLAB, Second Edition will serve you well. It offers not only an outstanding introduction to MATLAB, but also forms a guide to using MATLAB for your specific purposes: to explore the characteristics of semiconductor devices and to design and analyze electrical and electronic circuits and systems.

PCMag.com is a leading authority on technology, delivering Labs-based, independent reviews of the latest products and services. Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology.

Learn how to use PTC® Mathcad Prime® 3.0, one of the world's leading tools for technical computing, in the context of engineering, science, and math applications. Quickly harness the power of PTC Mathcad Prime 3.0 to solve both simple and complex problems. Essential PTC® Mathcad Prime® 3.0 is perfect for college students, first-time users, and experienced Mathcad 15 users who are moving to PTC Mathcad Prime 3.0. Updated from Maxfield's popular Essential Mathcad, this book introduces the most powerful functions and features of the new PTC Mathcad Prime 3.0 software and teaches how to apply them to create comprehensive calculations for any quantitative subject. Examples from several fields demonstrate the power and utility of PTC Mathcad's tools while also demonstrating how users can eff ectively incorporate Microsoft® Excel spreadsheets into the software. Learn the basics faster: Chapter 1 introduces many fundamentals of Mathcad, allowing the reader to begin using the program in

less time. Learn PTC Mathcad tools in context: Incorporates many applied examples and problems from a wide variety of disciplines. Thorough discussion of many PTC Mathcad tools: Units, arrays, plotting, solving, symbolic calculations, programming, algebra, calculus, differential equations, reading from files, writing to files, and incorporating MS Excel spreadsheets. Includes a link to PTC with instructions on how to purchase the PTC® Mathcad Prime® 3.0 Student Edition (The Student Edition software is intended for educational purposes only.)

Computer-Algebra-Systeme (CAS) und computerorientierte numerische Verfahren (CNV) vereinfachen den praktischen Umgang mit der Mathematik ganz entscheidend und werden in immer weiteren Bereichen angewendet. Bei ingenieurmäßigen Anwendungen kommen CAS und CNV nicht nur für anspruchsvolle mathematische Aufgabenstellungen und Herleitungen in Betracht, sondern auch als Engineering Desktop Software für alle Berechnungen. Mathcad verbindet mathematische Formeln, Berechnungen, Texte, Grafiken usw. in einem einzigen Arbeitsblatt. Dieses Lehr- und Arbeitsbuch, aus dem vierbändigen Werk "Angewandte Mathematik mit Mathcad", richtet sich vor allem an Schüler/innen höherer Schulen, Student/innen, Naturwissenschaftler/innen sowie Anwender/innen speziell im technischen Bereich. Sie können sich hier über eine computerorientierte Umsetzung mathematischer Probleme informieren und dabei die Vorzüge von Mathcad effektiv nutzen.

Now you can design a learning package that fits your introductory engineering course perfectly with The Engineer's Toolkit: A First Course in Engineering. The Engineer's Toolkit is Prentice Hall's innovative publishing program for introductory engineering. Consisting of modules that cover engineering skills and concepts, programming languages and software tools, The Engineer's Toolkit is a flexible solution for keeping up with the evolving curriculum of first-year engineering.

Computer Tools for Electrical Engineers: MATLAB & SPICE is designed to meet the specific needs of electrical and computer engineering undergraduates with little or no prior experience with programming and matrix algebra. Computer Tools focuses on the use of MATLAB within an electrical and computer engineering curriculum, and it concludes with circuit simulation using the freely-available application LTspice by Analog Devices. The text emphasizes the development of practical skills that students will use in future EE and ECE coursework, with programming chapters, practical examples, and problem sets that address common electrical engineering concerns. The design of Computer Tools also draws upon the authors? extensive involvement in pedagogical research, writing, and active learning strategies.

Linear Circuit Transfer Functions: An introduction to Fast Analytical Techniques teaches readers how to determine transfer functions of linear passive and active circuits by applying Fast Analytical Circuits Techniques. Building on their existing knowledge of classical loop/nodal analysis, the book improves and expands their skills to unveil transfer functions in a swift and efficient manner. Starting with simple examples, the author explains step-by-step how expressing circuits time constants in different configurations leads to writing transfer functions in a compact and insightful way. By learning how to organize numerators and denominators in the fastest possible way, readers will speed-up analysis and predict the frequency response of simple to complex circuits. In some cases, they will be able to derive the final expression by inspection, without writing a line of algebra. Key features:

Emphasizes analysis through employing time constant-based methods discussed in other text books but not widely used or explained. Develops current techniques on transfer functions, to fast analytical techniques leading to low-entropy transfer functions immediately exploitable for analysis purposes. Covers calculation techniques pertinent to different fields, electrical, electronics, signal processing etc. Describes how a technique is applied and demonstrates this through real design examples. All Mathcad® files used in examples and problems are freely available for download. An ideal reference for electronics or electrical engineering professionals as well as BSEE and MSEE students, this book will help teach them how to: become skilled in the art of determining transfer function by using less algebra and obtaining results in a more effectual way; gain insight into a circuit's operation by understanding how time constants rule dynamic responses; apply Fast Analytical Techniques to simple and complicated circuits, passive or active and be more efficient at solving problems.

Using the author's considerable experience of applying Mathcad to engineering problems, Engineering with Mathcad identifies the most powerful functions and features of the software and teaches how to apply these to create comprehensive engineering calculations. Many examples from a variety of engineering fields demonstrate the power and utility of Mathcad's tools, while also demonstrating how other software, such as Microsoft Excel spreadsheets, can be incorporated effectively. This simple, step-by-step approach makes this book an ideal Mathcad text for professional engineers as well as engineering and science students. A CD-ROM packaged with the book contains all the examples in the text and an evaluation version of the Mathcad software, enabling the reader to learn by doing and experiment by changing parameters. * Identifies the key Mathcad functions for creating comprehensive engineering calculations * A step-by-step approach enables easy learning for professional engineers and students alike * Includes a CD-ROM containing all the examples in the text and an evaluation version of the Mathcad software

In today's sophisticated world, reliability stands as the ultimate arbiter of quality. An understanding of reliability and the ultimate compromise of failure is essential for determining the value of most modern products and absolutely critical to others, large or small. Whether lives are dependent on the performance of a heat shield or a chip in a

Magnetic resonance imaging, semiconductor processing, and RFID are some of the critical applications within the medium frequency (MF) to ultrahigh frequency (UHF) range that require RF designers to have a solid understanding of analytical and experimental RF techniques. Designers need to be able to design components and devices cost effectively, and integrate them with high efficiency, minimal loss, and required power. Computer-aided design (CAD) tools also play an important part in helping to reduce costs and improve accuracy through optimization. RF Circuit Design Techniques for MF-UHF Applications explains how to design, simulate, and implement RF/microwave components and devices for applications within the medium frequency (MF) to ultrahigh frequency (UHF) range. The book makes RF design simple by expertly blending theory, simulation, and practical application examples. A Practical Guide to RF Circuit Design in the MF-UHF Range: Theory, Simulation, and Real-World Application Examples After a review of network parameters used in the analysis of RF components and devices, the book examines MF-UHF design techniques in detail. These include techniques for designing high-power microstrip circuits, directional

couplers, transformers, composite and multilayer inductors, filters, combiners/dividers, and RFID systems. For every device, the book gives the required theory and then explains the verification process with CAD tools. In addition, each design is illustrated with real-life implementation examples that use a variety of CAD tools such as MATLAB®, Mathcad, HFSSTM, Ansoft Designer®, Sonnet®, and PSpice®. Design tables, curves, and charts are included to demonstrate an efficient design process. Throughout, the book also offers practical hints to help engineers shorten the design time. Design MF-UHF Devices More Cost-Effectively The book reflects the optimum design methodology used in RF engineering, from the application of theory, to simulation for verification, to experimentation. Packed with useful techniques, tips, and examples, it is an invaluable resource for engineers, researchers, and students working in the MF-UHF range.

Mathcad for Electrical Engineers and TechnologistsMathcad Tutorial with Practical Electrical Examples

As the number of electrical devices in use continues to grow, so do the challenges of ensuring the electromagnetic compatibility (EMC) of products and systems. Fortunately, engineers have at their disposal an array of approximations, models, and rules-of-thumb to help them meet those challenges. Unfortunately, the number of these tools and guidelines is overwhelming, and worse still is the thought of investigating their origins and confirming their results. The Electromagnetic Compatibility Handbook is an unprecedented compilation of the many approximations, guidelines, models, and rules-of-thumb used in EMC analyses, complete with their sources and their limitations. The book presents these in an efficient question-and-answer format and incorporates an extremely comprehensive set of tables and figures. The author has either derived from basic principles or obtained and verified from their original sources all of the expressions in the tables. Mathcad was used to generate most of the plots and solve many of the equations, and the author includes the Mathcad programs for many of these so users can clearly see the variable assignments, assumptions, and equations. Designed to be of long-lasting value to engineers, researchers, and students, the Electromagnetic Compatibility Handbook is ideal both for quick reference and as a textbook for upper-level and graduate electrical engineering courses.

Electrical Engineering 101 covers the basic theory and practice of electronics, starting by answering the question "What is electricity?" It goes on to explain the fundamental principles and components, relating them constantly to real-world examples. Sections on tools and troubleshooting give engineers deeper understanding and the know-how to create and maintain their own electronic design projects. Unlike other books that simply describe electronics and provide step-by-step build instructions, EE101 delves into how and why electricity and electronics work, giving the reader the tools to take their electronics education to the next level. It is written in a down-to-earth style and explains jargon, technical terms and schematics as they arise. The author builds a genuine understanding of the fundamentals and shows how they can be applied to a range of engineering problems. This third edition includes more real-world examples and a glossary of formulae. It contains new coverage of: Microcontrollers FPGAs Classes of components Memory (RAM, ROM, etc.) Surface mount High speed design Board layout Advanced digital electronics (e.g. processors) Transistor circuits and circuit design Op-amp and logic circuits Use of test equipment Gives readers a simple

explanation of complex concepts, in terms they can understand and relate to everyday life. Updated content throughout and new material on the latest technological advances. Provides readers with an invaluable set of tools and references that they can use in their everyday work.

The object of this book is to quickly teach an electrical engineer or technologist how to use Mathcad. Mathcad simultaneously solves and documents calculations. It is oriented toward non-programmers who need to solve numerical engineering problems. Users like Mathcad because its programs follow the natural format of manual calculations. Complete keystroke-to-keystroke details are provided for problem solution and documentation. The reader learns by example. As a calculating tool, Mathcad solves equations. The equations are entered into Mathcad in a format similar to that used in manual calculations. It will solve mesh equations with real or complex numbers and will solve differential equations. Outputs can be numerical or graphical. Mathcad will also do symbolic calculations, meaning that it can reduce complex systems of equations to simpler equations. Documenting calculations is a major reason that Mathcad is used in modern industry. Calculations that in the past might have been recorded in notebooks, or even on easily lost scraps of paper, are now done with Mathcad to take advantage of the accuracy, neatness, traceability, and standardization it provides. Mathcad is available in a free 30 day demonstration version. The key features of Mathcad can be learned in 30 days.

A total revision of the author's previous work, Thermal Computations for Electronics: Conductive, Radiative, and Convective Air Cooling is a versatile reference that was carefully designed to help readers master mathematical calculation, prediction, and application methods for conductive, radiative, and convective heat transfer in electronic equipment. Presenting material in a way that is practical and useful to engineers and scientists, as well as engineering students, this book provides very detailed text examples and their solutions. This approach helps users at all levels of comprehension to strengthen their grasp of the subject and detect their own calculation errors. The beginning of this book is largely devoted to prediction of airflow and well-mixed air temperatures in systems and heat sinks, after which it explores convective heat transfer from heat sinks, circuit boards, and components. Applying a systematic presentation of information to enhance understanding and computational practice, this book: Provides complete mathematical derivations and supplements formulae with design plots Offers complete exercise solutions (MathcadTM worksheets and PDF images of Mathcad worksheets), lecture aids (landscape-formatted PDF files), and text-example Mathcad worksheets for professors adopting this book Addresses topics such as methods for multi-surface radiation exchange, conductive heat transfer in electronics, and finite element theory with a variational calculus method explained for heat conduction Presents mathematical descriptions of large thermal network problem formulation Discusses comprehensive thermal spreading resistance theory, and includes steady-state and time-dependent problems This reference is useful as a professional resource and also ideal for use in a complete course on the subject of electronics cooling, with its suggested course schedule and other helpful advice for instructors. Selected sections may be used as application examples in a traditional heat transfer course or to help professionals improve practical computational applications.

This introductory text provides coverage of both static and dynamic fields. There are references to computer visualisation (Mathcad) and computation throughout the text, and there are Mathcad electronic books available free on the Internet to help students visualise electromagnetic fields. Important equations are highlighted in the text, and there are examples and problems throughout, with answers to the problems at the back of the book.

Real-world engineering problems are rarely, if ever, neatly divided into mechanical, electrical, chemical, civil, and other categories. Engineers from all disciplines eventually encounter computer and electronic controls and instrumentation, which require at least a basic knowledge of electrical and other engineering specialties, as well as associated economics, and environmental, political, and social issues. Co-authored by Charles Gross—one of the most well-known and respected professors in the field of electric machines and power engineering—and his world-renowned colleague Thad Roppel, Fundamentals of Electrical Engineering provides an overview of the profession for engineering professionals and students whose specialization lies in areas other than electrical. For instance, civil engineers must contend with commercial electrical service and lighting design issues. Mechanical engineers have to deal with motors in HVAC applications, and chemical engineers are forced to handle problems involving process control. Simple and easy-to-use, yet more than sufficient in rigor and coverage of fundamental concepts, this resource teaches EE fundamentals but omits the typical analytical methods that hold little relevance for the audience. The authors provide many examples to illustrate concepts, as well as homework problems to help readers understand and apply presented material. In many cases, courses for non-electrical engineers, or non-EEs, have presented watered-down classical EE material, resulting in unpopular courses that students hate and senior faculty members understandingly avoid teaching. To remedy this situation—and create more well-rounded practitioners—the authors focus on the true EE needs of non-EEs, as determined through their own teaching experience, as well as significant input from non-EE faculty. The book provides several important contemporary interdisciplinary examples to support this approach. The result is a full-color modern narrative that bridges the various EE and non-EE curricula and serves as a truly relevant course that students and faculty can both enjoy.

A bestselling calculations handbook that offers electric power engineers and technicians essential, step-by-step procedures for solving a wide array of electric power problems. This edition introduces a complete electronic book on CD-ROM with over 100 live calculations--90% of the book's calculations. Updated to reflect the new National Electric Code advances in transformer and motors; and the new system design and operating procedures in the electric utility industry prompted by deregulation.

Our understanding of nature is often through nonuniform observations in space or time. In space, one normally observes the important features of an object, such as edges. The less important features are interpolated. History is a collection of important events that are nonuniformly spaced in time. Historians infer between events (interpolation) and politicians and stock market analysts forecast the future from past and present events (extrapolation). The 20 chapters of Nonuniform Sampling: Theory and Practice contain contributions by leading researchers in nonuniform and Shannon sampling, zero crossing, and interpolation theory. Its practical applications include NMR, seismology, speech and image coding, modulation and coding, optimal content, array processing, and digital filter design. It has a tutorial outlook for practising engineers and advanced students in science, engineering, and mathematics. It is also a useful reference for scientists

and engineers working in the areas of medical imaging, geophysics, astronomy, biomedical engineering, computer graphics, digital filter design, speech and video processing, and phased array radar.

Written for the practicing electronics professional, Tolerance Analysis of Electronic Circuits Using MATLAB offers a comprehensive, step-by-step treatment of methods used to perform analyses essential to the design process of circuit cards and systems of cards, including: worst-case analysis, limits for production testing, component stress analysis, determining if a design meets specification limits, and manufacturing yield analysis

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Solve any mechanical engineering problem quickly and easily This trusted compendium of calculation methods delivers fast, accurate solutions to the toughest day-to-day mechanical engineering problems. You will find numbered, step-by-step procedures for solving specific problems together with worked-out examples that give numerical results for the calculation. Covers: Power Generation; Plant and Facilities Engineering; Environmental Control; Design Engineering New Edition features methods for automatic and digital control; alternative and renewable energy sources; plastics in engineering design

Programming for Electrical Engineers: MATLAB and Spice introduces beginning engineering students to programming in Matlab and Spice through engaged, problem-based learning and dedicated electrical and computer engineering content. The book draws its problems and examples specifically from electrical and computer engineering, covering such topics as circuit analysis, signal processing, and filter design. It teaches relevant computational techniques in the context of solving common problems in electrical and computer engineering, including mesh and nodal analysis, Fourier transforms, and phasor analysis. Programming for Electrical Engineers: MATLAB and Spice is unique among MATLAB textbooks for its dual focus on introductory-level learning and discipline-specific content in electrical and computer engineering. No other textbook on the market currently targets this audience with the same attention to discipline-specific content and engaged learning practices. Although it is primarily an introduction to programming in MATLAB, the book also has a chapter on circuit simulation using Spice, and it includes materials required by ABET Accreditation reviews, such as information on ethics, professional development, and lifelong learning. Discipline-specific: Introduces Electrical and Computer Engineering-specific topics, such as phasor analysis and complex exponentials, that are not covered in generic engineering Matlab texts Accessible: Pedagogically appropriate for freshmen and sophomores with little or no prior programming experience Scaffolded content: Addresses both script and functions but emphasizes the use of functions since scripts with non-scoped variables are less-commonly encountered after introductory courses Problem-centric: Introduces MATLAB commands as needed to solve progressively more complex EE/ECE-specific problems, and includes over 100 embedded, in-chapter questions to check comprehension in stages and support active learning exercises in the classroom Enrichment callouts: "Pro Tip" callouts cover common ABET topics, such as ethics and professional development, and "Digging Deeper" callouts provide optional, more detailed

material for interested students

In one complete volume, this essential reference presents an in-depth overview of the theoretical principles and techniques of electrical machine design. This timely new edition offers up-to-date theory and guidelines for the design of electrical machines, taking into account recent advances in permanent magnet machines as well as synchronous reluctance machines. New coverage includes: Brand new material on the ecological impact of the motors, covering the eco-design principles of rotating electrical machines An expanded section on the design of permanent magnet synchronous machines, now reporting on the design of tooth-coil, high-torque permanent magnet machines and their properties Large updates and new material on synchronous reluctance machines, air-gap inductance, losses in and resistivity of permanent magnets (PM), operating point of loaded PM circuit, PM machine design, and minimizing the losses in electrical machines> End-of-chapter exercises and new direct design examples with methods and solutions to real design problems> A supplementary website hosts two machine design examples created with MATHCAD: rotor surface magnet permanent magnet machine and squirrel cage induction machine calculations. Also a MATLAB code for optimizing the design of an induction motor is provided Outlining a step-by-step sequence of machine design, this book enables electrical machine designers to design rotating electrical machines. With a thorough treatment of all existing and emerging technologies in the field, it is a useful manual for professionals working in the diagnosis of electrical machines and drives. A rigorous introduction to the theoretical principles and techniques makes the book invaluable to senior electrical engineering students, postgraduates, researchers and university lecturers involved in electrical drives technology and electromechanical energy conversion.

An Introduction to Numerical Methods using Mathcad is designed to be used in any introductory level numerical methods course. It provides excellent coverage of numerical methods while simultaneously demonstrating the general applicability of Mathcad to problem solving. This textbook also provides a reliable source of reference material to practicing engineers and scientists and in other junior and senior-level courses where Mathcad can be effectively utilized as a software tool in problem solving. A principal goal of this book is to furnish the background needed to create Mathcad documents for the generation of solutions to a variety of problems. Specific applications involving root-finding, interpolation, curve-fitting, matrices, derivatives, integrals and differential equations are discussed and the broad applicability of Mathcad demonstrated. Wherever appropriate, the use of Mathcad functions offering shortcuts and alternatives to otherwise long and tedious numerical solutions is also demonstrated.

Windows-Version

This comprehensive book illustrates how MathCAD can be used to solve many mathematical tasks, and provides the mathematical background to the MathCAD package. Based on the latest Version 8 Professional for Windows, this book Market: contains many solutions to basic mathematical tasks and is designed to be used as both a reference and tutorial for lecturers and students, as well as a practical manual for engineers, mathematicians and computer scientists.

Using the author's considerable experience of applying Mathcad to engineering problems, Essential Mathcad introduces the most powerful functions and features of the software and teaches how to apply these to create comprehensive calculations for any quantitative subject. The simple, step-by-step approach makes this book an ideal Mathcad text for professional engineers as well as engineering , science, and math students. Examples from a variety of fields demonstrate the power and utility of Mathcad's tools, while also demonstrating how other software, such as Excel spreadsheets, can be incorporated effectively. A full version of Mathcad v15 is available by using the registration code included in the front of the book (North America only). The included software is for educational purposes only. *Many more applied

examples and exercises from a wide variety of engineering, science, and math fields * New: more thorough discussions of differential equations, 3D plotting, and curve fitting, reading from files and writing to files. * Full non-expiring version of Mathcad 15 software available, by using the registration code included in the front of the book). The included software is for educational purposes only. *New: A new chapter 1 introduces many basics of Mathcad, allowing the reader to begin using the program in less time. * A step-by-step approach enables easy learning for professionals and students alike

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