

Visual Basic For Engineers

A Step by Step Approach to the Modeling of Chemical Engineering Processes
Visual Basic .NET
Practical Database Programming with Visual Basic.NET
Automating Science and Engineering Laboratories with Visual Basic
Software Development for Engineers
Introduction to Chemical Engineering
Automated Data Analysis Using Excel
Irrigation and Drainage Engineering
Solutions for Soil and Structural Systems Using Excel and VBA Programs
Excel for Scientists and Engineers
An Applied Guide to Process and Plant Design
Computer Modeling Applications for Environmental Engineers
Visual Basic for Electronics Engineering Applications
Process Engineering and Design Using Visual Basic®, Second Edition
Programming Visual Basic .NET
QuickBASIC Programming for Scientists and Engineers
Microsoft Visual Basic 2013
Step by Step
A Guide to Microsoft Excel 2013 for Scientists and Engineers
Essential Java for Scientists and Engineers
Developing Windows-Based and Web-Enabled Information Systems
Mastering Microsoft Visual Basic 2010
Practical Database Programming with Visual Basic.NET
An Introduction to Excel for Civil Engineers
Professional Financial Computing Using Excel and VBA
Excel for Scientists and Engineers
Electrical Engineering 101
Visual Basic and Visual Basic .NET for Scientists and Engineers
Schaum's Outline of Visual Basic
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Visual Basic 2010 Programmer's Reference
Mathematical Algorithms in Visual Basic for Scientists & Engineers
BASIC Programs for Scientists and Engineers
Numerical Methods for

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Chemical Engineers Using Excel, VBA, and MATLAB
Process Engineering and Design Using Visual Basic
Arduino + Visual basic 6.0
Liengme's Guide to Excel 2016 for Scientists and Engineers
An Introduction to Signal Processing for Non-Engineers
Visual Basic and Visual Basic .NET for Scientists and Engineers
Introduction to Sensors for Electrical and Mechanical Engineers
Excel Scientific and Engineering Cookbook

A Step by Step Approach to the Modeling of Chemical Engineering Processes

Software tools are a great aid to process engineers, but too much dependence on such tools can often lead to inappropriate and suboptimal designs. Reliance on software is also a hindrance without a firm understanding of the principles underlying its operation, since users are still responsible for devising the design. In *Process Engineering and Design Using Visual Basic*, Arun K. Datta provides a unique and versatile suite of programs along with simultaneous development of the underlying concepts, principles, and mathematics. Each chapter details the theory and techniques that provide the basis for design and engineering software and then showcases the development and utility of programs developed using the material outlined in the chapter. This all-inclusive guide works systematically from basic mathematics to fluid mechanics, separators, overpressure protection, and

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glycol dehydration, providing basic design guidelines based on international codes. Worked examples demonstrate the utility of each program, while the author also explains problems and limitations associated with the simulations. After reading this book you will be able to immediately put these programs into action and have total confidence in the result, regardless of your level of experience. Companion Visual Basic and Excel files are available for download on under the "Downloads/Updates" tab on this web page.

Visual Basic .NET

Completely updated guide for students, scientists and engineers who want to use Microsoft Excel 2013 to its full potential. Electronic spreadsheet analysis has become part of the everyday work of researchers in all areas of engineering and science. Microsoft Excel, as the industry standard spreadsheet, has a range of scientific functions that can be utilized for the modeling, analysis and presentation of quantitative data. This text provides a straightforward guide to using these functions of Microsoft Excel, guiding the reader from basic principles through to more complicated areas such as formulae, charts, curve-fitting, equation solving, integration, macros, statistical functions, and presenting quantitative data. Content written specifically for the requirements of science and engineering students and professionals working with Microsoft Excel, brought fully up to date with the new Microsoft Office release of Excel 2013. Features of Excel 2013 are illustrated

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through a wide variety of examples based in technical contexts, demonstrating the use of the program for analysis and presentation of experimental results. New to this edition: The Backstage is introduced (a new Office 2013 feature); all the 'external' operations like Save, Print etc. are now in one place The chapter on charting is totally revised and updated – Excel 2013 differs greatly from earlier versions Includes many new end-of-chapter problems Most chapters have been edited to improve readability

Practical Database Programming with Visual Basic.NET

Visual Basic expert Rod Stephens shows you how to leverage the latest features of VB 2010 Microsoft Visual Basic (VB) is the most popular programming language in the world, with millions of lines of code used in businesses and applications of all types and sizes. The new release of Visual Basic 2010 is tightly integrated with the Windows operating system and the .NET programming environment. Renowned VB authority Rod Stephens provides a comprehensive guide to Visual Basic programming, including the latest enhancements to the VB language and programming environment with Visual Studio 2010 The tutorial is packed with detailed and practical code examples that show readers how to master all of the features of VB. Visual Basic authority Rod Stephens presents a must-have resource on Visual Basic, the most popular programming language in the word Fully covers the newest features of Visual Basic 2010, such as array literals and initializers,

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collection initializers, implicit line continuation, Lambda expressions, and more Features extensively revised and tested code to ensure compliance with the latest release With this essential resource, you'll be able to quickly review the details of important programming, objects, properties, methods, and events. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Automating Science and Engineering Laboratories with Visual Basic

Evaluation of a Basic interpreter or compiler. Mean and standard deviation. Vector and matrix operations. Simultaneous solution of linear equations. Development of a curve-fitting program. Sorting. General least-squares curve fitting. Solution of equations by Newton's method. Numerical integration. Nonlinear curve-fitting equations. Advanced applications: the normal curve, the Gaussian error function, the gamma function, and the bessel function. Reserved words and functions. Summary of basic.

Software Development for Engineers

The PC has longtime outgrown its function as a pure computer and has become an

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all-purpose machine. This book is targeted towards those people that want to control existing or self-built hardware from their computer. Using Visual Basic as Rapid Application Development tool we will take you on a journey to unlock the world beyond the connectors of the PC. After familiarizing yourself with Visual Basic, its development environment and the toolset it offers, items such as serial communications, printer ports, bitbanging, protocol emulation, ISA, USB and Ethernet interfacing and the remote control of test-equipment over the GPIB bus are covered in extent. Each topic is accompanied by clear, ready to run code, and where necessary, schematics are provided that will get your project up to speed in no time. This book will show you advanced things like: using tools like Debug to find hardware addresses, setting up remote communication using TCP/IP and UDP sockets and even writing your own internet servers. Or how about connecting your own block of hardware over USB or Ethernet and controlling it from Visual Basic. Other things like inter-program communication, DDE and the new graphics interface of Windows XP are covered as well. All examples are ready to compile using Visual Basic 5.0, 6.0, NET or 2005. Extensive coverage is given on the differences between what could be called Visual Basic Classic and Visual Basic NET / 2005.

Introduction to Chemical Engineering

While teaching the Numerical Methods for Engineers course over the last 15 years,

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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

Automated Data Analysis Using Excel

Liengme's Guide to Excel 2016 for Scientists and Engineers is a completely updated guide for students, scientists, and engineers who want to use Microsoft Excel 2016 to its full potential, whether you're using a PC or a Mac. Electronic spreadsheet analysis has become part of the everyday work of researchers in all areas of engineering and science. Microsoft Excel, as the industry standard spreadsheet, has a range of scientific functions that can be utilized for the modeling, analysis, and presentation of quantitative data. This text provides a straightforward guide to using these functions of Microsoft Excel, guiding the reader from basic principles through to more complicated areas such as formulae, charts, curve-fitting, equation solving, integration, macros, statistical functions, and presenting quantitative data. Content written specifically for the requirements of science and engineering students and professionals working with Microsoft Excel, brought fully up to date with Microsoft Office release of Excel 2016. Features of Excel 2016 are illustrated through a wide variety of examples based on technical contexts, demonstrating the use of the program for analysis and presentation of

experimental results. Where appropriate, demonstrates the differences between the PC and Mac versions of Excel. Includes many new end-of-chapter problems at varying levels of difficulty.

Irrigation and Drainage Engineering

The field of chemical engineering is undergoing a global “renaissance,” with new processes, equipment, and sources changing literally every day. It is a dynamic, important area of study and the basis for some of the most lucrative and integral fields of science. Introduction to Chemical Engineering offers a comprehensive overview of the concept, principles and applications of chemical engineering. It explains the distinct chemical engineering knowledge which gave rise to a general-purpose technology and broadest engineering field. The book serves as a conduit between college education and the real-world chemical engineering practice. It answers many questions students and young engineers often ask which include: How is what I studied in the classroom being applied in the industrial setting? What steps do I need to take to become a professional chemical engineer? What are the career diversities in chemical engineering and the engineering knowledge required? How is chemical engineering design done in real-world? What are the chemical engineering computer tools and their applications? What are the prospects, present and future challenges of chemical engineering? And so on. It also provides the information new chemical engineering hires would need to excel

and cross the critical novice engineer stage of their career. It is expected that this book will enhance students understanding and performance in the field and the development of the profession worldwide. Whether a new-hire engineer or a veteran in the field, this is a must—have volume for any chemical engineer's library.

Solutions for Soil and Structural Systems Using Excel and VBA Programs

Excel for Scientists and Engineers

This book treats modeling and simulation in a simple way, that builds on the existing knowledge and intuition of students. They will learn how to build a model and solve it using Excel. Most chemical engineering students feel a shiver down the spine when they see a set of complex mathematical equations generated from the modeling of a chemical engineering system. This is because they usually do not understand how to achieve this mathematical model, or they do not know how to solve the equations system without spending a lot of time and effort. Trying to understand how to generate a set of mathematical equations to represent a physical system (to model) and solve these equations (to simulate) is not a simple

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task. A model, most of the time, takes into account all phenomena studied during a Chemical Engineering course. In the same way, there is a multitude of numerical methods that can be used to solve the same set of equations generated from the modeling, and many different computational languages can be adopted to implement the numerical methods. As a consequence of this comprehensiveness and combinatorial explosion of possibilities, most books that deal with this subject are very extensive and embracing, making need for a lot of time and effort to go through this subject. It is expected that with this book the chemical engineering student and the future chemical engineer feel motivated to solve different practical problems involving chemical processes, knowing they can do that in an easy and fast way, with no need of expensive software.

An Applied Guide to Process and Plant Design

Sensors are all around us. They are in phones, cars, planes, trains, robots, mills, lathes, packaging lines, chemical plants, power plants, etc. Modern technology could not exist without sensors. The sensors measure what we need to know and the control system then performs the desired actions. When an engineer builds any machine he or she needs to have basic understanding about sensors. Correct sensors need to be selected for the design right from the start. The designer needs to think about the ranges, required accuracy, sensor cost, wiring, correct installation and placement etc. Without the basic knowledge of sensors

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fundamental no machine can be built successfully today. The objective of this book is to provide the basic knowledge to electrical and mechanical engineers, engineering students and hobbyist from the field of sensors to help them with the selection of “proper” sensors for their designs. No background knowledge in electrical engineering is required, all the necessary basics are provided. The book explains how a sensor works, in what ranges it can be used, with what accuracy etc. It also provides examples of industrial application for selected sensors. The book covers all the major variables in mechanical engineering such as temperature, force, torque, pressure, humidity, position, speed, acceleration etc. The approach is always as follows: - Explain how the sensor works, what is the principle - Explain in what ranges and with what accuracy it can work - Describe its properties with charts, eventually equations - Give examples of such sensors including application examples

Computer Modeling Applications for Environmental Engineers

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

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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.

Visual Basic for Electronics Engineering Applications

Your hands-on guide to Visual Basic fundamentals Expand your expertise—and teach yourself the fundamentals of Microsoft Visual Basic 2013. If you have previous programming experience but are new to Visual Basic 2013, this tutorial delivers the step-by-step guidance and coding exercises you need to master core topics and techniques. Discover how to: Master essential Visual Basic programming

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techniques Begin building apps for Windows Store, Windows Phone 8, and ASP.NET Design apps using XAML markup, touch input, and live tiles Tackle advanced language concepts, such as polymorphism Manage data sources including XML documents and web data Create a Windows Phone 8 app that manages key lifecycle events

Process Engineering and Design Using Visual Basic®, Second Edition

This textbook focuses specifically on the combined topics of irrigation and drainage engineering. It emphasizes both basic concepts and practical applications of the latest technologies available. The design of irrigation, pumping, and drainage systems using Excel and Visual Basic for Applications programs are explained for both graduate and undergraduate students and practicing engineers. The book emphasizes environmental protection, economics, and engineering design processes. It includes detailed chapters on irrigation economics, soils, reference evapotranspiration, crop evapotranspiration, pipe flow, pumps, open-channel flow, groundwater, center pivots, turf and landscape, drip, orchards, wheel lines, hand lines, surfaces, greenhouse hydroponics, soil water movement, drainage systems design, drainage and wetlands contaminant fate and transport. It contains summaries, homework problems, and color photos. The book draws from the fields

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of fluid mechanics, soil physics, hydrology, soil chemistry, economics, and plant sciences to present a broad interdisciplinary view of the fundamental concepts in irrigation and drainage systems design.

Programming Visual Basic .NET

An Applied Guide to Process and Plant Design is a guide to process plant design for both students and professional engineers. The book covers plant layout and the use of spreadsheet programmes and key drawings produced by professional engineers as aids to design; subjects which are usually learned on the job rather than in education. You will learn how to produce smarter plant design through the use of computer tools, including Excel and AutoCAD, "What If Analysis", statistical tools, and Visual Basic for more complex problems. The book also includes a wealth of selection tables, covering the key aspects of professional plant design which engineering students and early-career engineers tend to find most challenging. Professor Moran draws on over 20 years' experience in process design to create an essential foundational book ideal for those who are new to process design, compliant with both professional practice and the IChemE degree accreditation guidelines. Explains how to deliver a process design that meets both business and safety criteria Covers plant layout and the use of spreadsheet programmes and key drawings as aids to design Includes a comprehensive set of selection tables, covering those aspects of professional plant design which early-

career designers find most challenging

QuickBASIC Programming for Scientists and Engineers

Learn to fully harness the power of Microsoft Excel® to perform scientific and engineering calculations. With this text as your guide, you can significantly enhance Microsoft Excel's® 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® 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-

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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

Microsoft Visual Basic 2013 Step by Step

Completely revised, this edition is an essential guide for VB programmers looking to make the change to the .NET programming environment.

A Guide to Microsoft Excel 2013 for Scientists and Engineers

The most up-to-date Visual Basic.NET programming textbook—covering both fundamentals and advanced-level programming techniques—complete with examples and solutions Visual Basic.NET (VB.NET) is an object-oriented computer programming language that can be viewed as an evolution of the classic Visual Basic (VB), which is implemented on the .NET Framework. Microsoft currently supplies two major implementations of Visual Basic: Microsoft Visual Studio (which is commercial software) and Microsoft Visual Studio Express (which is free of charge). Forgoing the large amounts of programming codes found in

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most database programming books, Practical Database Programming with Visual Basic.NET shows students and professionals both how to develop professional and practical database programs in a Visual Basic.NET environment by using Visual Studio.NET Data Tools and Wizards related to ADO.NET 4.0, and how to apply codes that are auto-generated by solely using Wizards. The fully updated Second Edition: Covers both fundamentals and advanced database programming techniques Introduces three popular database systems with practical examples including MS Access, SQL Server 2008, and Oracle Features more than fifty sample projects with detailed illustrations and explanations to help students understand key techniques and programming technologies Includes downloadable programming codes and exercise questions This book provides undergraduate and graduate students as well as database programmers and software engineers with the necessary tools to handle the database programming issues in the Visual Studio.NET environment.

Essential Java for Scientists and Engineers

Specialisation in software has become a thing of the past. With the move towards graphical user interface programming, engineers must have a sound knowledge of several programming languages and for the first time most of the main technical languages are introduced in a single volume. All the example programs included relate to real life applications to provide a long needed reference that students will find invaluable throughout their studies, and a definitive guide for professional

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developers requiring an insight into other languages. Using C++ and Pascal to provide a basic grounding in software development the author then goes on to introduce more advanced concepts such as object-orientated design through the development of C++. Sections on Visual Basic and 80X86 Assembly Language follow before Java, Windows, NT and DOS are introduced, finishing with an overview of the UNIX system.

Developing Windows-Based and Web-Enabled Information Systems

"Professional Financial Computing Using Excel and VBA is an admirable exposition that bridges the theoretical underpinnings of financial engineering and its application which usually appears as a "black-box" software application. The book opens the black-box and reveals the architecture of risk-modeling and financial engineering based on industry-standard stochastic models by utilizing Excel and VBA functionality to create a robust and practical modeling tool-kit. Financial engineering professionals who purchase this book will have a jumpstart advantage for their customized financial engineering and modeling needs." Dr. Cameron Wicentowich Vice President, Treasury Analytics Canadian Imperial Bank of Commerce (CIBC) "Spreadsheet modeling for finance has become a standard course in the curriculum of many Quantitative Finance programs since the Excel-

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based Visual Basic programming is now widely used in constructing optimal portfolios, pricing structured products and managing risks. Professional Financial Computing Using Excel and VBA is written by a unique team of finance, physics and computer academics and practitioners. It is a good reference for those who are studying for a Masters degree in Financial Engineering and Risk Management. It can also be useful for financial engineers to jump-start a project on designing structured products, modeling interest term structure or credit risks." Dr. Jin Zhang Director of Master of Finance Program and Associate Professor The University of Hong Kong "Excel has been one of the most powerful tools for financial planning and computing over the last few years. Most users utilize a fraction of its capabilities. One of the reasons is the limited availability of books that cover the advanced features of Excel for Finance. Professional Financial Computing Using Excel and VBA goes the extra mile and deals with the Excel tools many professionals call for. This book is a must for professionals or students dealing with financial engineering, financial risk management, computational finance or mathematical finance. I loved the way the authors covered the material using real life, hands-on examples." Dr. Isaac Gottlieb Temple University Author, Next Generation Excel: Modeling in Excel for Analysts and MBAs

Mastering Microsoft Visual Basic 2010

A Volume in the Wiley-Interscience Series on Laboratory Automation. The

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complete, step-by-step guide to using Visual Basic(r) in a laboratory setting Visual Basic(r) is fast becoming the de facto laboratory programming language, yet existing books typically discuss applications that have nothing to do with science and engineering. This primer fills the gap in the field, showing professionals seeking to improve the productivity of their laboratories how to use Visual Basic(r) to automate laboratory processes. Automating Science and Engineering Laboratories with Visual Basic(r) helps laboratory professionals decide when and if to use Visual Basic(r) and how to combine it with the many computing technologies used in modern laboratories such as RS-232 port communications, TCP/IP networking, and event-driven control, to name a few. With an emphasis on getting readers programming immediately, the book provides clear guidelines to the appropriate programming techniques as well as custom-developed software tools. Readers will learn how to build applications to control laboratory instruments, collect and process experimental data, create interactive graphical applications, and more. Boasting many working examples with the complete source code and backward compatibility to previous versions of Visual Basic(r), Automating Science and Engineering Laboratories with Visual Basic(r) is an indispensable teaching tool for nonprogrammers and a useful reference for more experienced practitioners.

Practical Database Programming with Visual Basic.NET

Many professionals and students in engineering, science, business, and other

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application fields need to develop Windows-based and web-enabled information systems to store and use data for decision support, without help from professional programmers. However, few books are available to train professionals and students who are not professional programmers to develop these information systems. *Developing Windows-Based and Web-Enabled Information Systems* fills this gap, providing a self-contained, easy-to-understand, and well-illustrated text that explores current concepts, methods, and software tools for developing Windows-based and web-enabled information systems. Written in an easily accessible style, the book details current concepts, methods, and software tools for Windows-based and web-enabled information systems that store and use data. It is self-contained with easy-to-understand small examples to walk through concepts and implementation details along with large-scale case studies. The book describes data modeling methods including entity-relationship modeling, relational modeling and normalization, and object-oriented data modeling, to develop data models of a database. The author covers how to use software tools in the Microsoft application development environment, including Microsoft Access, MySQL, SQL, Visual Studio, Visual Basic, VBA, HTML, and XML, to implement databases and develop Windows-based and web-enabled applications with the database, graphical user interface, and program components. The book takes you through the entire process of developing a computer and network application for an information system, highlighting concepts and operation details. In each chapter, small data examples are used to manually walk through concepts and operational details. These

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features and more give you the conceptual understanding and practical skill required, even if you don't have a computer science background, to develop Windows-based or web-enabled applications for your specialized information system.

An Introduction to Excel for Civil Engineers

This valuable book/disk offers scientists, engineers, statisticians and programmers a toolbox of essential numerical routines in Visual Basic. Providing the routines in Visual Basic offers an excellent method for scientists and engineers familiar with BASIC to learn Visual Basic through mathematical routines they can use every day in their work.

Professional Financial Computing Using Excel and VBA

Here is a concise and practical guide to help researchers and engineers who are new to Visual Basic gain a firm grasp of the topics that are most relevant to their programming needs.

Excel for Scientists and Engineers

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Use Arduino and VB 6.0 to control LEDs, DC motors, stepper motors, and servo motors; create voice guidance programs; interface with the RF module; and make a simple wireless Arduino robot. This book deals with Arduino and Visual Basic serial communication and contains many programs and builds to help you get a clear understanding of practical controlling. Every example is described with a breadboard circuit, so you can learn best practices for circuit implementation with Arduino. Arduino + VB 6.0 is ideal for beginners, non-IT engineers, and researchers eager to make some cool projects with Arduino. Using Visual Basic and Arduino together means that your projects will be reliable and limited only by your imagination. Who This Book Is For Students, robotics researchers, non-IT engineers. What You Will Learn Arduino and Visual Basic 6.0 wired and wireless serial communication Arduino robot building, including circuit implementation, Arduino programming and developing a Visual Basic program that will control the robot Interfacing RF (Radio Frequency) with Arduino and Visual Basic 6.0 PWM (Pulse Width Modulation) of DC motors, angle control of servo motors, and step control of stepper motors div

Electrical Engineering 101

A must-have resource for new and established VB developers, this guide coverscore topics like controls, arrays, data structures and OOP.

Visual Basic and Visual Basic .NET for Scientists and Engineers

"Provides a cost-effective alternative to Finite Element software tools for soil and structural analysis. Giving readers the tools to understand and analyse common problems in structural engineering, foundation engineering and soil-structure interaction, this book is accompanied by Excel Spreadsheets and employs the Visual Basic for Applications (VBA) macro programming language to allow a practical understanding. The book demystifies complex soil and structure applications using simple modelling techniques to present the essentials in a clear and concise way. It also shows the theory behind the programming of the finite element method, and how analysis using Excel spreadsheets and VBA macros can be used to test underlying assumptions of FEM tools. By providing an expert system and guidance to the reader in its use through examples, the text shows how an analysis of any structure or soil-structure system, regardless of complexity, can be conducted. It explains the operations being performed by all the computer programs in a general manner, and any limitations, simplifying assumptions, or approximations inherent in the method. The book also addresses some of the common problems and misunderstandings in the theory and practice of geo-engineering by providing tools to calculate deformations; implement soil-structure interaction procedures for many problems; provide reality checks on more complicated procedures; and enable proper implementation of soil and rock properties in analyses. A hands-on reference enabling readers to efficiently solve

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problems in the analysis of geotechnical and structural systems using Excel and VBA macros Uniquely utilises Excel spreadsheets and programming tools to solve practical problems in soil-structure interaction in a cost-effective way Both a self-study guide and a reference, with extensive question and answer sections within chapters, to enable hands-on learning Includes an Appendix with solutions to practical civil engineering applications Companion website features Matlab coding, Excel spreadsheets and VBA macros "--

Schaum's Outline of Visual Basic

Here is a concise and practical guide to help researchers and engineers who are new to Visual Basic gain a firm grasp of the topics that are most relevant to their programming needs.

An Introduction to Visual Basic for Engineers and Scientists

Excel for Scientists and Engineers is an essential sourcebook for implementing advanced numerical methods supplied in Excel for Windows 95 and Excel 5 for Windows 3.1 and Mac. Use Excel to perform all levels of numerical analysis. Each detailed example explains the numerical method used and how to implement it in Excel. You'll learn to prepare single-input and multi-input engineering tables, and

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create function calculators for painless "what-if" analysis; use Excel's built-in curve-fitting functions, from linear curve-fitting to linear regression, polynomial regression, and non-linear curve-fitting; employ popular integration functions, including the rectangle rule, the trapezoid rule, Simpson's rule, and Gaussian quadratures; use Excel's new distribution and statistical functions, plus Bessel, error, and delta functions; solve ordinary differential equations and partial differential equations by combining Excel's features in new ways; and create your own functions with Visual Basic for Applications.

Visual Basic 2010 Programmer's Reference

Tough Test Questions? Missed Lectures? Not Enough Time? Fortunately for you, there's Schaum's Outlines. More than 40 million students have trusted Schaum's to help them succeed in the classroom and on exams. Schaum's is the key to faster learning and higher grades in every subject. Each Outline presents all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills. This Schaum's Outline gives you Practice problems with full explanations that reinforce knowledge Coverage of the most up-to-date developments in your course field In-depth review of practices and applications Fully compatible with your classroom text, Schaum's highlights all the important facts you need to know. Use Schaum's to shorten your study time-and get your best test scores! Schaum's

Outlines-Problem Solved.

Mathematical Algorithms in Visual Basic for Scientists & Engineers

Computer Modeling Applications for Environmental Engineers in its second edition incorporates changes and introduces new concepts using Visual Basic.NET, a programming language chosen for its ease of comprehensive usage. This book offers a complete understanding of the basic principles of environmental engineering and integrates new sections that address Noise Pollution and Abatement and municipal solid-waste problem solving, financing of waste facilities, and the engineering of treatment methods that address sanitary landfill, biochemical processes, and combustion and energy recovery. Its practical approach serves to aid in the teaching of environmental engineering unit operations and processes design and demonstrates effective problem-solving practices that facilitate self-teaching. A vital reference for students and professional sanitary and environmental engineers this work also serves as a stand-alone problem-solving text with well-defined, real-work examples and explanations.

BASIC Programs for Scientists and Engineers

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Essential Java serves as an introduction to the programming language, Java, for scientists and engineers, and can also be used by experienced programmers wishing to learn Java as an additional language. The book focuses on how Java, and object-oriented programming, can be used to solve science and engineering problems. Many examples are included from a number of different scientific and engineering areas, as well as from business and everyday life. Pre-written packages of code are provided to help in such areas as input/output, matrix manipulation and scientific graphing. Takes a 'dive-in' approach, getting the reader writing and running programs immediately Teaches object-oriented programming for problem-solving in engineering and science

Numerical Methods for Chemical Engineers Using Excel, VBA, and MATLAB

QuickBASIC Programming for Scientists and Engineers teaches computer programming from the ground up with Microsoft QuickBASIC, a modern, fast, easy-to-learn programming language. Examples used throughout the book are useful for students and professionals in chemistry, physics, and engineering. The book covers the basics and then proceeds to more sophisticated programs using a disk (enclosed with the book) containing pretested procedures for important operations such as Graphing (screen, printers, plotters) Data entry/edit/save/retrieve File

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management Linear regression Nonlinear regression Cubic spline interpolation Romberg integration Differential equations Fourier transform. With these routines, you get many of the advantages of a spreadsheet, but with a simpler, more powerful programming language. QuickBASIC Programming for Scientists and Engineers shows you what these routines do and how to use them effectively. Because the book provides the source code, you can even customize these routines to suit your specific needs. The modules disk runs on any IBM© or compatible microcomputer with a graphics board, 640K RAM, DOS 3.0 or higher, and a copy of Microsoft QuickBASIC (version 4.0 or higher). The book is perfect for any scientist or engineering professional who needs to learn QuickBASIC programming quickly and easily.

Process Engineering and Design Using Visual Basic

Given the improved analytical capabilities of Excel, scientists and engineers everywhere are using it--instead of FORTRAN--to solve problems. And why not? Excel is installed on millions of computers, features a rich set of built-in analyses tools, and includes an integrated Visual Basic for Applications (VBA) programming language. No wonder it's today's computing tool of choice. Chances are you already use Excel to perform some fairly routine calculations. Now the Excel Scientific and Engineering Cookbook shows you how to leverage Excel to perform more complex calculations, too, calculations that once fell in the domain of

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specialized tools. It does so by putting a smorgasbord of data analysis techniques right at your fingertips. The book shows how to perform these useful tasks and others: Use Excel and VBA in general Import data from a variety of sources Analyze data Perform calculations Visualize the results for interpretation and presentation Use Excel to solve specific science and engineering problems Wherever possible, the Excel Scientific and Engineering Cookbook draws on real-world examples from a range of scientific disciplines such as biology, chemistry, and physics. This way, you'll be better prepared to solve the problems you face in your everyday scientific or engineering tasks. High on practicality and low on theory, this quick, look-up reference provides instant solutions, or "recipes," to problems both basic and advanced. And like other books in O'Reilly's popular Cookbook format, each recipe also includes a discussion on how and why it works. As a result, you can take comfort in knowing that complete, practical answers are a mere page-flip away.

Arduino + Visual basic 6.0

This book introduces the basic concepts of signal processing for scientists and students with no engineering background. The book presents the concepts with minimum use of mathematical formulations and more emphasis on visual illustrations. The idea is to present an intuitive approach to understanding the basics of signal processing and exemplify some practical applications of the concepts by which the readers achieve basic knowledge and skills in signal

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processing. Most of illustrations in the book have been created by computer programming in MATLAB®; thus, the reader will learn the basics of using computers in signal processing applications.

Liengme's Guide to Excel 2016 for Scientists and Engineers

The new edition of the ultimate comprehensive guide to Microsoft Visual Basic 2010. Where most VB books start with beginner level topics, Mastering Visual Basic 2010 vaults you right into intermediate and advanced coverage. From the core of the language and user interface design to developing data-driven applications, this detailed book brings you thoroughly up to speed and features numerous example programs you can use to start building your own apps right away. Covers Visual Basic 2010, part of Microsoft's Visual Studio integrated development environment (IDE), which includes C#, C++, Visual Web Developer, and ASP.NET, along with Visual Basic. Explains topics in the thorough, step-by-step style of all books in the Mastering series, providing you ample instruction, tips, and techniques. Helps you build your own applications by supplying sample code you can use to start development. Includes review exercises in each chapter to reinforce concepts as you learn. All the books in the Sybex Mastering series feature comprehensive and expert coverage of topics you can put to immediate use. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

An Introduction to Signal Processing for Non-Engineers

The most up-to-date Visual Basic.NET programming textbook—covering both fundamentals and advanced-level programming techniques—complete with examples and solutions Visual Basic.NET (VB.NET) is an object-oriented computer programming language that can be viewed as an evolution of the classic Visual Basic (VB), which is implemented on the .NET Framework. Microsoft currently supplies two major implementations of Visual Basic: Microsoft Visual Studio (which is commercial software) and Microsoft Visual Studio Express (which is free of charge). Forgoing the large amounts of programming codes found in most database programming books, Practical Database Programming with Visual Basic.NET shows students and professionals both how to develop professional and practical database programs in a Visual Basic.NET environment by using Visual Studio.NET Data Tools and Wizards related to ADO.NET 4.0, and how to apply codes that are auto-generated by solely using Wizards. The fully updated Second Edition: Covers both fundamentals and advanced database programming techniques Introduces three popular database systems with practical examples including MS Access, SQL Server 2008, and Oracle Features more than fifty sample projects with detailed illustrations and explanations to help students understand key techniques and programming technologies Includes downloadable programming codes and exercise questions This book provides undergraduate and graduate students as well as database programmers and software engineers with

the necessary tools to handle the database programming issues in the Visual Studio.NET environment.

Visual Basic and Visual Basic .NET for Scientists and Engineers

It's a Excel basics book that every civil engineer should have read by now. It addresses skills that may not be covered in most Excel for civil engineering texts, such as step by step guides to create an application program and how to convert the steps into VBA code, how to perform matrix operations (multiplication and inversion) using Excel-VBA, macro for creating an engineering chart, a brief and simple guide to become an instant Excel-VBA programmer, and more Also to be presented the depiction in AutoCAD program. Yes! AutoCAD is chosen because one of its advantages that relies on high drawing accuracy. You will learn how to create a simple AutoCAD script file using Excel formulas and Excel-VBA. It is expected that you will be able to create simple Cartesian graph in AutoCAD, even you are an AutoCAD first time user! With the ease of working with Excel, coupled with benefit of the given examples in this book, it is expected to increase the interest of the reader to create new original application programs. Thus, each model or even a specific calculation will be an exciting challenge for a programming job is already enjoyable. Happy Excel programming!

Introduction to Sensors for Electrical and Mechanical Engineers

Software tools are a great aid to process engineers, but too much dependence on such tools can often lead to inappropriate and suboptimal designs. Reliance on software is also a hindrance without a firm understanding of the principles underlying its operation, since users are still responsible for devising the design. In Process Engineering

Excel Scientific and Engineering Cookbook

This new edition covers some of the key topics relating to the latest version of MS Office through Excel 2019, including the creation of custom ribbons by injecting XML code into Excel Workbooks and how to link Excel VBA macros to customize ribbon objects. It now also provides examples in using ADO, DAO, and SQL queries to retrieve data from databases for analysis. Operations such as fully automated linear and non-linear curve fitting, linear and non-linear mapping, charting, plotting, sorting, and filtering of data have been updated to leverage the newest Excel VBA object models. The text provides examples on automated data analysis and the preparation of custom reports suitable for legal archiving and dissemination. Functionality Demonstrated in This Edition Includes: Find and extract information raw data files Format data in color (conditional formatting)

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