Electrical Engineering Mini Project

This handbook serves as a guide to deploying battery energy storage technologies, specifically for distributed energy resources and flexibility resources. Battery energy storage technology is the most promising, rapidly developed technology as it provides higher efficiency and ease of control. With energy transition through decarbonization and decentralization, energy storage plays a significant role to enhance grid efficiency by alleviating volatility from demand and supply. Energy storage also contributes to the grid integration of renewable energy and promotion of microgrid.

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.

Successful use of information and communication technologies depends on usable designs that do not require expensive training, accommodate the needs of diverse users and are low cost. There is a growing demand and increasing pressure for adopting innovative approaches to the design and delivery of education, hence, the use of online learning (also called E-learning) as a mode of study. This is partly due to the increasing number of learners and the limited resources available to meet a wide range of various needs, backgrounds, expectations, skills, levels, ages, abilities and disabilities. The advances of new technology and communications (WWW, Human Computer Interaction and Multimedia) have made it possible to reach out to a bigger audience around the globe. By focusing on the issues that have impact on the usability of online learning programs and their implementation, Usability Evaluation of Online Learning Programs specifically fills-in a gap in this area, which is particularly invaluable

to practitioners.

Power System SCADA and Smart Grids brings together in one concise volume the fundamentals and possible application functions of power system supervisory control and data acquisition (SCADA). The text begins by providing an overview of SCADA systems, evolution, and use in power systems and the data acquisition process. It then describes the components of SCADA systems, from the legacy remote terminal units (RTUs) to the latest intelligent electronic devices (IEDs), data concentrators, and master stations, as well as: Examines the building and practical implementation of different SCADA systems Offers a comprehensive discussion of the data communication, protocols, and media usage Covers substation automation (SA), which forms the basis for transmission, distribution, and customer automation Addresses distribution automation and distribution management systems (DA/DMS) and energy management systems (EMS) for transmission control centers Discusses smart distribution, smart transmission, and smart grid solutions such as smart homes with home energy management systems (HEMs), plugged hybrid electric vehicles, and more Power System SCADA and Smart Grids is designed to assist electrical engineering students, researchers, and practitioners alike in acquiring a solid understanding of SCADA systems and application functions in generation, transmission, and distribution systems, which are evolving day by day, to help them adapt to new challenges effortlessly. The book reveals the inner secrets of SCADA systems, unveils the

potential of the smart grid, and inspires more minds to get involved in the development process.

UNLEASH YOUR INNER MAD SCIENTIST! "Wonderful. I learned a lot reading the detailed but easy to understand instructions."--BoingBoing This wickedly inventive guide explains how to design and build 15 fiendishly fun electronics projects. Filled with photos and illustrations, 15 Dangerously Mad Projects for the Evil Genius includes step-by-step directions, as well as a construction primer for those who are new to electronics projects. Using easy-to-find components and equipment, this do-it-yourself book shows you how to create a variety of mischievous gadgets, such as a remote-controlled laser, motorized multicolored LEDs that write in the air, and a surveillance robot. You'll also learn to use the highly popular Arduino microcontroller board with three of the projects. 15 Dangerously Mad Projects for the Evil Genius: Features step-by-step instructions and helpful illustrations Covers essential safety measures Reveals the scientific principles behind the projects Removes the frustration factor--all required parts are listed, along with sources Build these devious devices to amaze your friends and confound your enemies! Coil gun Trebuchet Ping pong ball minigun Mini laser turret Balloon-popping laser gun Touch-activated laser sight Laser-grid intruder alarm Persistence-of-vision display Covert radio bug Laser voice transmitter Flash bomb High-brightness LED strobe Levitation machine Snailbot Surveillance robot Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts,

schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze. VIDEOS, PHOTOS, AND SOURCE CODE ARE AVAILABLE AT WWW.DANGEROUSLYMAD.COM Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Reducing power outage time to each customer is essential to the overall distribution reliability. This book provides the fundamentals of emergency operation using a graph-theoretic approach and exploration of the subsystem(s) that address the operational aspects of electrical fault occurrence to determine possible feeder reconfiguration. The localization of a faulted segment within a feeder involves remote-controlled normally open (NO) and normally closed (NC) switches through supervisory control and data acquisition (SCADA) between radially energized, interconnected feeders. Topics cover: (1) Data extraction from geographic information systems (GIS), (2) Graph modeling of distribution feeders, (3) Programming for backward/forward sweeping unbalanced power flow, (4) Short circuit analysis and fault localization, (5) Fault isolation, temporary and full service restoration, (6) Outage management and crew coordination, (7) Trouble call tickets and escalation to search for fault, and (8) Emerging subject of distribution management systems (DMS). FEATURES •Novel and practical textbook that will help to understand distribution operation in graph theory •Show how to convert GIS

coordinate datasets to graph and how to troubleshoot the geometry errors •Explain how to troubleshoot power flow divergence due to the bad metering datasets and allocation factor (AF) for each load within primary and secondary networks •Similar platform as DMS environment, but the graduate students have their hands-on experience to implement the applications in the MATLAB environment •Detailed modeling in graph theory of distribution feeders and possible reconfiguration to locate power outage

This book is ideal for high school & engineering students as well as hobbyists who have just started out building projects in Electrical and Electronics fields. The book starts with electrical and electronics fundamentals necessary for execution of projects. The basic knowledge is introduced first followed by a schematic diagram, components list and the theory behind the project to be performed is given. The projects have been divided into three segments corresponding to beginners, intermediate and engineering levels. The materials required to build the projects are commonly available at the corner shop and are less expensive than you think. FeaturesIdeal for beginners, high school (intermediate), engineering students and hobbyistsUseful for knowing basics of electronic components, circuit, and home lab setup.Practical for doing projects at home or school laboratory

A new edition of the most popular book of project management case studies, expanded to include more than 100 cases plus a "super case" on the Iridium Project Case studies are an important part of project management education and

training. This Fourth Edition of Harold Kerzner's Project Management Case Studies features a number of new cases covering value measurement in project management. Also included is the well-received "super case," which covers all aspects of project management and may be used as a capstone for a course. This new edition: Contains 100-plus case studies drawn from real companies to illustrate both successful and poor implementation of project management Represents a wide range of industries, including medical and pharmaceutical, aerospace, manufacturing, automotive, finance and banking, and telecommunications Covers cutting-edge areas of construction and international project management plus a "super case" on the Iridium Project, covering all aspects of project management Follows and supports preparation for the Project Management Professional (PMP®) Certification Exam Project Management Case Studies, Fourth Edition is a valuable resource for students, as well as practicing engineers and managers, and can be used on its own or with the new Eleventh Edition of Harold Kerzner's landmark reference, Project Management: A Systems Approach to Planning, Scheduling, and Controlling. (PMP and Project Management Professional are registered marks of the Project Management Institute, Inc.)

This book contains everything electricians need to know about working on site,

covering not only the health and safety aspects of site work, but also the techniques and testing knowledge required from the modern-day electrician. Regulations issues are included alongside step-by-step instructions for each task, after which testing information, checklists and example forms are given so that site workers can ensure they have done everything required of them.

110 Integrated Circuit Projects for the Home Constructor, Second Edition (Completely Revised) describes five types of linear integrated circuits and 110 projects in which these can be utilized. The book describes the typical characteristics of the 741 op-amp (with open-loop voltage gain, input impedance) and the variety of ways where it can be used in basic linear amplifier applications. The type 555 timer is designed for precision timing applications, monostable multivibrator, astable multivibrator, and Schmitt trigger applications. The XR-2206 i.c. can be used by the technician as a simple waveform generator or as a complex function generator with a variety of modulation facilities. The LM380 i.c. is an easy-to use general-purpose power audio amplifier. The technician can use it as simple non-inverting 2W amplifier, or in conjunction with a single bipolar transistor, as a small baby alarm. The 723 voltage regulator i.c. can be used in a variety of fixed or variable voltage power supply applications. It can be used as a low voltage (2-7.2V) regulator and, if the technician modifies the circuit, it can

produce variable output voltages. The book is suitable for engineers, apprentices, technicians, and students of electrical engineering or electronics.

Covering the life of a construction project from inception to completion, this useful reference explains basic and advanced aspects of engineering economics, cost estimating, cost control, cost forecasting, planning, and scheduling. It serves both as a comprehensive introduction to cost engineering and as a practical, on-the-job guide for any construction project where the object is economy. Construction Cost Engineering Handbook describes the responsibilities of each member of the construction team and defines their relationship to project control ... analyzes project economics before, during, and after a project's finish ... examines various types and methods of estimating ... distinguishes between cost reporting and cost forecasting, with valuable cost and scheduling integration examples ... considers planning and scheduling procedures such as the bar chart and sophisticated contemporary techniques ... highlights ways of avoiding common mistakes through data development ... and furnishes computer samples for estimating, cost control, cost forecasting, and scheduling. Illustrated with more than 180 excellent diagrams and drawings, and featuring convenient appendixes on foreign and remote projects, code of accounts and work breakdown structure, and typical project activities, Construction Cost Engineering Handbook is an

indispensable reference for civil, cost, project, plant, design, construction, and industrial engineers and managers as well as architects, building contractors, and financial controllers involved with construction projects. Book jacket.

This textbook “Basic Electrical Engineering” is based on the latest syllabus of the Universities, AICTE and Educational Institutes. In this edition, some material of the book has been rewritten to make the presentation easily comprehensible. More illustrative examples mainly from IAS, IES and GATE and other competitive examinations have been added. Various problems with answers have been added to support the text. For quick revision, summary/highlights are given at the end of each chapter. Salient Features: · DC Circuits · AC Circuits · Transformers · Electrical Machines · Power converters · Electrical Installations

A synthesis of nearly 2,000 articles to help make engineersbetter educators While a significant body of knowledge has evolved in the fieldof engineering education over the years, much of the publishedinformation has been restricted to scholarly journals and has notfound a broad audience. This publication rectifies that situationby reviewing the findings of nearly 2,000 scholarly articles tohelp engineers become better educators, devise more effectivecurricula, and be more effective leaders and advocates incurriculum and research development. The author's first objective is to provide an illustrativereview of

research and development in engineering education since1960. His second objective is, with the examples given, toencourage the practice of classroom assessment and research, andhis third objective is to promote the idea of curriculumleadership. The publication is divided into four main parts: Part I demonstrates how the underpinnings ofeducation—history, philosophy, psychology,sociology—determine the aims and objectives of the curriculumand the curriculum's internal structure, which integratesassessment, content, teaching, and learning Part II focuses on the curriculum itself, considering such keyissues as content organization, trends, and change. A chapter oninterdisciplinary and integrated study and a chapter on project andproblem-based models of curriculum are included Part III examines problem solving, creativity, and design Part IV delves into teaching, assessment, and evaluation,beginning with a chapter on the lecture, cooperative learning, andteamwork The book ends with a brief, insightful forecast of the future ofengineering education. Because this is a practical tool andreference for engineers, each chapter is self-contained and may beread independently of the others. Unlike other works in engineering education, which are generallyintended for educational researchers, this publication is writtennot only for researchers in the field of engineering education, butalso for all engineers who teach. All

readers acquire a host ofpractical skills and knowledge in the fields of learning,philosophy, sociology, and history as they specifically apply tothe process of engineering curriculum improvement andevaluation.

Project Idea Book ? Lined Journal ? 6" x 9" ? 300 pages ? College ruled ? Glossy Red Cover ? Whether you're planning projects around the house, for work, or you just want to collect your thoughts in one location - this notebook makes a great place to write it all down. It's also a great gift for the "planner" in your life!

This updated edition is an introduction appropriate for both the student and hobbyist to the theory and practice of electronics. It leads the reader through introductory understanding of the science underlying electronics, building basic circuits, learning the roles of the components, the application of digital theory and the possibilities for innovation by combining sensors, motors, and microcontrollers. Each chapter contains a brief lab to demonstrate the topic covered then moving on to the final projects that build a programmable robot with the Netduino or Arduino microcontroller and projects using the Raspberry Pi. The companion disc has videos of the labs, soldering skills, and code samples for programming of the robot. eBook Customers: Companion files are available for downloading with order number/proof of purchase by writing to the publisher at info@merclearning.com. Features: • Leads the reader through an introductory understanding of electronics with both simple labs and progressing to the construction of a microcontroller-driven robot using open source software and hardware

and projects to run on a Raspberry Pi • Companion disc contains videos of labs, tutorials on soldering/ de-soldering, code for the microcontroller robot project, and figures from the text

Fun engineering projects for kids Does your kid's love of 'tinkering' resemble that of a budding Thomas Edison? Then Getting Started with Engineering is guaranteed to spark their fascination! The focused, easy-to-complete projects offered inside are designed to broaden their understanding of basic engineering principles, challenge their problem-solving skills, and sharpen their creativity—all while having fun along the way. Engineers are experts on how things work—and this book is your youngster's best first step to developing the skills they need to think, design, and build things like the pros. The projects they'll complete feature a fun twist that appeal to their age group—from a tiny model roller coaster to a wearable toy that includes an electronic circuit—and the instructions are written in an easy-to-follow manner, making it possible for them to experience the pride and accomplishment of working independently. Appropriate for children aged 7-11 Simple explanations guide children to complete three projects using household items The full-color design, short page count, and easy-to-follow instructions are designed to appeal to kids Brought to you by the trusted For Dummies brand If you have a little engineer that could, Getting Started with Engineering is a great way to encourage their fascination of figuring out how things work.

The book includes 300 exciting projects and detail functional description with tested

electronic projects includes circuits diagram for innovators, engineering students and electronics lover, this book is written for all the people who love innovation. It is the huge collection of ideas to do some innovative project, to create something new. I believe this Book will be helpful for the students for their mini project, also includes functioning basics in case of electronic components i.e., Resistors, Capacitors, Diodes, Transformers, Transistors, LEDs, Variable Resistors, ICs, PCB, Arduino and Raspberry Pi . This book for scholars and hobbyists to learn basic electronics through practical presentable circuits. A handy guide for college and school science fair projects or for creation personal hobby, Design new panels and make new circuit designs.This book includes verified tested electronics engineering project ideas and embedded mini electronics projects using Arduino, Raspberry Pi and a lot more. These projects are for beginners, hobbyists & electronics enthusiasts. The mini projects are designed to be very helpful for engineering students and professionals building their own embedded system designs and circuits. The projects are also compiled from time to time to provide a single destination for project junkies. Let us know how you feel about the content and any thing you would like us to cover in the future. We hope you enjoy the book.

A complete, basic electronics reference manual that includes component and circuit descriptions, tables, math formulas, schematic symbols.

As the open-source and free competitor to expensive software like MapleTM, Mathematica®, Magma, and MATLAB®, Sage offers anyone with access to a web

browser the ability to use cutting-edge mathematical software and display his or her results for others, often with stunning graphics. This book is a gentle introduction to Sage for undergraduate students toward the end of Calculus II (single-variable integral calculus) or higher-level course work such as Multivariate Calculus, Differential Equations, Linear Algebra, or Math Modeling. The book assumes no background in computer science, but the reader who finishes the book will have learned about half of a first semester Computer Science I course, including large parts of the Python programming language. The audience of the book is not only math majors, but also physics, engineering, finance, statistics, chemistry, and computer science majors.
The fundamentals and implementation of digital electronics are essential to understanding the design and working of consumer/industrial electronics, communications, embedded systems, computers, security and military equipment. Devices used in applications such as these are constantly decreasing in size and employing more complex technology. It is therefore essential for engineers and students to understand the fundamentals, implementation and application principles of digital electronics, devices and integrated circuits. This is so that they can use the most appropriate and effective technique to suit their technical need. This book provides practical and comprehensive coverage of digital electronics, bringing together information on fundamental theory, operational aspects and potential applications. With worked problems, examples, and review questions for each chapter, Digital Electronics

includes: information on number systems, binary codes, digital arithmetic, logic gates and families, and Boolean algebra; an in-depth look at multiplexers, de-multiplexers, devices for arithmetic operations, flip-flops and related devices, counters and registers, and data conversion circuits; up-to-date coverage of recent application fields, such as programmable logic devices, microprocessors, microcontrollers, digital troubleshooting and digital instrumentation. A comprehensive, must-read book on digital electronics for senior undergraduate and graduate students of electrical, electronics and computer engineering, and a valuable reference book for professionals and researchers.

For newly hired young engineers assigned to their first real 'project', there has been little to offer in the way of advice on 'where to begin', 'what to look out for and avoid', and 'how to get the job done right'. This book gives this advice from an author with long experience as senior engineer in government and industry (U.S. Army Corps of Engineers and Exxon-Mobil). Beginning with guidance on understanding the typical organizational structure of any type of technical firm or company, author Plummer incorporates numerous hands-on examples and provides help on getting started with a project team, understanding key roles, and avoiding common pitfalls. In addition, he offers unique help on first-time experiences of working in other countries with engineering cultures that can be considerably different from the US. Reviews essentials of management for any new engineer suddenly thrust into responsibility Emphasizes skills that can get you promoted—and pitfalls that can get you fired Expanded case study

to show typical evolution of a new engineer handed responsibility for a major design project

This book is ideal for high school & engineering students as well as hobbyists who have just started out building projects in Electrical and Electronics fields. The book starts with electrical and electronics fundamentals necessary for execution of projects. The basic knowledge is introduced first followed by a schematic diagram, components list and the theory behind the project to be performed is given. The projects have been divided into three segments corresponding to beginners, intermediate and engineering levels. The materials required to build the projects are commonly available at the corner shop and are less expensive than you think. Features Ideal for beginners, high school (intermediate), engineering students and hobbyists Useful for knowing basics of electronic components, circuit, and home lab setup. Practical for doing projects at home or school laboratory

The book includes 100 exciting projects in comprehensive functional description and electronic circuits for innovators, engineering students and electronics lover, this book is written for all the people who love innovation. It is the huge collection of ideas to do some innovative project, to create something new. I believe this Book will be helpful for the students for their mini project, also includes

functioning basics in case of electronic components i.e., Resistors, Capacitors, Diodes, Transformers, Transistors, LEDs, Variable Resistors, ICs, and PCB. This book for scholars and hobbyists to learn basic electronics through practical presentable circuits. A handy guide for college and school science fair projects or for creation personal hobby, Design new panels and make new circuit designs. this project work involves finding creative solutions to several project associated problems and many technical challenges. Project works at all times make developments to the existing system, and therefore, it ultimately enables students to think socially with an innovative practical mindset and thought. An electronic engineer should implement his knowledge to develop society

This book comprises the proceedings of the International Conference on Transformations in Engineering Education conducted jointly by BVB College of Engineering & Technology, Hubli, India and Indo US Collaboration for Engineering Education (IUCEE). This event is done in collaboration with International Federation of Engineering Education Societies (IFEES), American Society for Engineering Education (ASEE) and Global Engineering Deans' Council (GEDC). The conference is about showcasing the transformational practices in Engineering Education space.

From the duo behind the massively successful and award-winning podcast Stuff

You Should Know comes an unexpected look at things you thought you knew. Josh Clark and Chuck Bryant started the podcast Stuff You Should Know back in 2008 because they were curious—curious about the world around them, curious about what they might have missed in their formal educations, and curious to dig deeper on stuff they thought they understood. As it turns out, they aren't the only curious ones. They've since amassed a rabid fan base, making Stuff You Should Know one of the most popular podcasts in the world. Armed with their inquisitive natures and a passion for sharing, they uncover the weird, fascinating, delightful, or unexpected elements of a wide variety of topics. The pair have now taken their near-boundless "whys" and "hows" from your earbuds to the pages of a book for the first time—featuring a completely new array of subjects that they've long wondered about and wanted to explore. Each chapter is further embellished with snappy visual material to allow for rabbit-hole tangents and digressions—including charts, illustrations, sidebars, and footnotes. Follow along as the two dig into the underlying stories of everything from the origin of Murphy beds, to the history of facial hair, to the psychology of being lost. Have you ever wondered about the world around you, and wished to see the magic in everyday things? Come get curious with Stuff You Should Know. With Josh and Chuck as your guide, there's something interesting about everything (...except maybe jackhammers).

"This comprehensive book addresses applications for hobbyist broadcasting of AM, SSB, TV, FM Stereo and NBFM VHF-UHF signals with equipment readers can build themselves for thousands of dollars less than similar equipment sold on the retail market. The authors fully explore the legal limits and ramifications of using the equipment as well as how to get the best performance for optimum range. The key advantage is referencing a low-cost source for all needed parts, including the printed circuit board, as well as the kit. Complete source information has been included to help each reader find the kits and parts they need to build these fascinating projects."--BOOK JACKET.

Robotics, Second Edition is an essential addition to the toolbox of any engineer or hobbyist involved in the design of any type of robot or automated mechanical system. It is the only book available that takes the reader through a step-by step design process in this rapidly advancing specialty area of machine design. This book provides the professional engineer and student with important and detailed methods and examples of how to design the mechanical parts of robots and automated systems. Most robotics and automation books today emphasis the electrical and control aspects of design without any practical coverage of how to design and build the components, the machine or the system. The author draws on his years of industrial design experience to show the reader the design

process by focusing on the real, physical parts of robots and automated systems. Answers the questions: How are machines built? How do they work? How does one best approach the design process for a specific machine? Thoroughly updated with new coverage of modern concepts and techniques, such as rapid modeling, automated assembly, parallel-driven robots and mechatronic systems Calculations for design completed with Mathematica which will help the reader through its ease of use, time-saving methods, solutions to nonlinear equations, and graphical display of design processes Use of real-world examples and problems that every reader can understand without difficulty Large number of high-quality illustrations Self-study and homework problems are integrated into the text along with their solutions so that the engineering professional and the student will each find the text very useful

Encompassing profiles of every four-year college in the United States, an updated guide provides detailed information on academic programs, admissions requirements, financial aid, services, housing, athletics, contact names, and more for 1,600 four-year colleges throughout the U.S. Original. 22,000 first printing.

Electronics Engineer's Reference Book, Sixth Edition is a five-part book that begins with a synopsis of mathematical and electrical techniques used in the analysis of electronic systems. Part II covers physical phenomena, such as electricity, light, and radiation, often met with in

electronic systems. Part III contains chapters on basic electronic components and materials, the building blocks of any electronic design. Part IV highlights electronic circuit design and instrumentation. The last part shows the application areas of electronics such as radar and computers.

Handbook of Electrical Installation Practice covers all key aspects of industrial, commercial and domestic installations and draws on the expertise of a wide range of industrial experts. Chapters are devoted to topics such as wiring cables, mains and submains cables and distribution in buildings, as well as power supplies, transformers, switchgear, and electricity on construction sites. Standards and codes of practice, as well as safety, are also included. Since the Third Edition was published, there have been many developments in technology and standards. The revolution in electronic microtechnology has made it possible to introduce more complex technologies in protective equipment and control systems, and these have been addressed in the new edition. Developments in lighting design continue, and extra-low voltage luminaries for display and feature illumination are now dealt with, as is the important subject of security lighting. All chapters have been amended to take account of revisions to British and other standards, following the trend to harmonised European and international standards, and they also take account of the latest edition of the Wiring Regulations. This new edition will provide an invaluable reference for consulting engineers, electrical contractors and factory plant engineers.

Issues in Renewable Energy Technologies / 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Hydrologic Engineering. The editors have built Issues in Renewable Energy Technologies: 2013 Edition on the vast

information databases of ScholarlyNews.™ You can expect the information about Hydrologic Engineering in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Renewable Energy Technologies: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

71 Electrical & Electronic PorjectsV&s Publishers

The bestselling beginner Arduino guide, updated with new projects! Exploring Arduino makes electrical engineering and embedded software accessible. Learn step by step everything you need to know about electrical engineering, programming, and human-computer interaction through a series of increasingly complex projects. Arduino guru Jeremy Blum walks you through each build, providing code snippets and schematics that will remain useful for future projects. Projects are accompanied by downloadable source code, tips and tricks, and video tutorials to help you master Arduino. You'll gain the skills you need to develop your own microcontroller projects! This new 2nd edition has been updated to cover the rapidly-expanding Arduino ecosystem, and includes new full-color graphics for easier reference. Servo motors and stepper motors are covered in richer detail, and you'll find more excerpts about technical details behind the topics covered in the book. Wireless connectivity and the Internet-of-Things are now more prominently featured in the advanced projects to reflect Arduino's growing

capabilities. You'll learn how Arduino compares to its competition, and how to determine which board is right for your project. If you're ready to start creating, this book is your ultimate guide! Get up to date on the evolving Arduino hardware, software, and capabilities Build projects that interface with other devices—wirelessly! Learn the basics of electrical engineering and programming Access downloadable materials and source code for every project Whether you're a first-timer just starting out in electronics, or a pro looking to mock-up more complex builds, Arduino is a fantastic tool for building a variety of devices. This book offers a comprehensive tour of the hardware itself, plus in-depth introduction to the various peripherals, tools, and techniques used to turn your little Arduino device into something useful, artistic, and educational. Exploring Arduino is your roadmap to adventure—start your journey today! Quantitative analysis of outcomes vs PMs at the individual level Leading Complex Projects takes a unique approach to post-mortem analysis to provide project managers with invaluable insight. For the first time, individual PM characteristics are quantitatively linked to project outcomes through a major study investigating the role of project leadership in the success and failure of complex industrial projects; hard data on the backgrounds, education, and personality characteristics of over 100 directors of complex projects is analyzed against the backdrop of project performance to provide insight into controllable determinants of outcomes. By placing these analyses alongside their own data, PMs will gain greater insight into areas of weakness and strength, locate recurring obstacles, and identify project components in need of greater planning, oversight, or control. The role of leadership is to deliver results; in project management, this means taking responsibility for project outcomes. PMs are driven by continuous improvement, and this book provides a wealth of insight to help you achieve the

next step forward. Understand why small, simple projects consistently outperform larger, more complex projects Delve into the project manager's role in generating successful outcomes Examine the data from over 100 PMs of complex industrial projects Link PM characteristics to project outcome to find areas for improvement Complex industrial projects from around the world provide a solid basis for quantitative analysis of outcomes—and the PMs who drive them. Although the majority of the data is taken from projects in the petroleum industry, the insights gleaned from analysis are widely applicable across industry lines for PMs who lead complex projects of any stripe. Leading Complex Projects provides clear, data-backed improvement guidance for anyone in a project management role.