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A detailed and comprehensive guide for growing and using gourmet and medicinal mushrooms commercially or at home. "Absolutely the best book in the world on how to grow diverse and delicious mushrooms."—David Arora, author of *Mushrooms Demystified* With precise growth parameters for thirty-one mushroom species, this bible of mushroom cultivation includes gardening tips, state-of-the-art production techniques, realistic advice for laboratory and growing room construction, tasty mushroom recipes, and an invaluable troubleshooting guide. More than 500 photographs, illustrations, and charts clearly identify each stage of cultivation, and a twenty-four-page color insert spotlights the intense beauty of various mushroom species. Whether you're an ecologist, a chef, a forager, a pharmacologist, a commercial grower, or a home gardener—this indispensable handbook will get you started, help your garden succeed, and make your mycological landscapes the envy of the neighborhood.

ISO 12100 the Ultimate Step-By-Step Guide 5starcooks

DIV In the world of interior design, thou-

sands of bits of crucial information are scattered across a wide array of sources. The Interior Design Reference & Specification Book collects the information essential to planning and executing interior projects of all shapes and sizes, and distills it in a format that is as easy to use as it is to carry. You'll also find interviews with top practitioners drawn across the field of interior design. —Fundamentals provides a step-by-step overview of an interiors project, describing the scope of professional services, the project schedule, and the design and presentation tools used by designers. —Space examines ways of composing rooms as spatial environments while speaking to functional and life-safety concerns. —Surface identifies options in color, material, texture, and pattern, while addressing maintenance and performance issues. —Environments looks at aspects of interior design that help create a specific mood or character, such as natural and artificial lighting, sound and smell. —Elements describes the selection and specification of furniture and fixtures, as well as other components essential to an interior environment, such as artwork and accessories. —Resources gathers a wealth of useful data, from sus-

tainability guidelines to online sources for interiors-related research. /div

What situation(s) led to this ISO 12100 Self Assessment? What threat is ISO 12100 addressing? How to Secure ISO 12100? How do we go about Comparing ISO 12100 approaches/solutions? How do we Lead with ISO 12100 in Mind? This premium ISO 12100 self-assessment will make you the credible ISO 12100 domain veteran by revealing just what you need to know to be fluent and ready for any ISO 12100 challenge. How do I reduce the effort in the ISO 12100 work to be done to get problems solved? How can I ensure that plans of action include every ISO 12100 task and that every ISO 12100 outcome is in place? How will I save time investigating strategic and tactical options and ensuring ISO 12100 costs are low? How can I deliver tailored ISO 12100 advice instantly with structured going-forward plans? There's no better guide through these mind-expanding questions than acclaimed best-selling author Gerard Blokdyk. Blokdyk ensures all ISO 12100 essentials are covered, from every angle: the ISO 12100 self-assessment shows succinctly and clearly that what needs to be clarified to organize the required activities and processes so that ISO 12100 outcomes are achieved. Contains extensive criteria grounded in past and current successful projects and activities by experienced ISO 12100 practitioners. Their mastery, combined with the easy elegance of the self-assessment, provides its superior value to you in knowing how to ensure the outcome of any efforts in ISO 12100 are maximized with professional results. Your purchase includes access details to the ISO 12100 self-assessment dashboard download which gives you your dynamically prioritized projects-ready tool

and shows you exactly what to do next. Your exclusive instant access details can be found in your book. You will receive the following contents with New and Updated specific criteria: - The latest quick edition of the book in PDF - The latest complete edition of the book in PDF, which criteria correspond to the criteria in... - The Self-Assessment Excel Dashboard, and... - Example pre-filled Self-Assessment Excel Dashboard to get familiar with results generation ...plus an extra, special, resource that helps you with project managing. INCLUDES LIFETIME SELF ASSESSMENT UPDATES Every self assessment comes with Lifetime Updates and Lifetime Free Updated Books. Lifetime Updates is an industry-first feature which allows you to receive verified self assessment updates, ensuring you always have the most accurate information at your fingertips.

Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, Requirements Engineering gives useful hints to practitioners on how to write and structure requirements. It explains the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Covering a generic multi-layer requirements process, the book discusses the key elements of effective requirements management. The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at:

<http://www.requirementsengineering.info>
Now in its sixth edition, Pipeline Rules of Thumb Handbook has been and continues to be the standard resource for any professional in the pipeline industry. A practical and convenient reference, it provides quick solutions to the everyday pipeline problems that the pipeline engineer, contractor, or designer faces. Pipeline Rules of Thumb Handbook assembles hundreds of shortcuts for pipeline construction, design, and engineering. Workable "how-to" methods, handy formulas, correlations, and curves all come together in this one convenient volume. Save valuable time and effort using the thousands of illustrations, photographs, tables, calculations, and formulas available in an easy to use format Updated and revised with new material on project scoping, plastic pipe data, HDPE pipe data, fiberglass pipe, NEC tables, trenching, and much more A book you will use day to day guiding every step of pipeline design and maintenance

E-maintenance is the synthesis of two major trends in today's society: the growing importance of maintenance as a key technology and the rapid development of information and communication technology. E-maintenance gives the reader an overview of the possibilities offered by new and advanced information and communication technology to achieve efficient maintenance solutions in industry, energy production and transportation, thereby supporting sustainable development in society. Sixteen chapters cover a range of different technologies, such as: new micro sensors, on-line lubrication sensors, smart tags for condition monitoring, wireless communication and smart personal digital assistants. E-maintenance also discusses semantic data-structuring solutions; ontology struc-

tured communications; implementation of diagnostics and prognostics; and maintenance decision support by economic optimisation. It includes four industrial cases that are both described and analysed in detail, with an outline of a global application solution. E-maintenance is a useful tool for engineers and technicians who wish to develop e-maintenance in industrial sites. It is also a source of new and stimulating ideas for researchers looking to make the next step towards sustainable development.

Covers the fundamentals of risk assessment and emphasizes taking a practical approach in the application of the techniques Written as a primer for students and employed safety professionals covering the fundamentals of risk assessment and emphasizing a practical approach in the application of the techniques Each chapter is developed as a stand-alone essay, making it easier to cover a subject Includes interactive exercises, links, videos, and downloadable risk assessment tools Addresses criteria prescribed by the Accreditation Board for Engineering and Technology (ABET) for safety programs

Safety Critical Systems Handbook: A Straightforward Guide to Functional Safety, IEC 61508 (2010 Edition) and Related Standards, Including Process IEC 61511 and Machinery IEC 62061 AND ISO 13849, Third Edition, offers a practical guide to the functional safety standard IEC 61508. The book is organized into three parts. Part A discusses the concept of functional safety and the need to express targets by means of safety integrity levels. It places functional safety in context, along with risk assessment, likelihood of fatality, and the cost of conformance. It also explains the life-cycle approach, together with the basic outline of IEC 61508 (known as BS EN 61508 in the

UK). Part B discusses functional safety standards for the process, oil, and gas industries; the machinery sector; and other industries such as rail, automotive, avionics, and medical electrical equipment. Part C presents case studies in the form of exercises and examples. These studies cover SIL targeting for a pressure let-down system, burner control system assessment, SIL targeting, a hypothetical proposal for a rail-train braking system, and hydroelectric dam and tidal gates. The only comprehensive guide to IEC 61508, updated to cover the 2010 amendments, that will ensure engineers are compliant with the latest process safety systems design and operation standards. Helps readers understand the process required to apply safety critical systems standards. Real-world approach helps users to interpret the standard, with case studies and best practice design examples throughout.

The chemical composition of natural water is derived from many different sources of solutes, including gases and aerosols from the atmosphere, weathering and erosion of rocks and soil, solution or precipitation reactions occurring below the land surface, and cultural effects resulting from activities of man. Some of the processes of solution or precipitation of minerals can be closely evaluated by means of principles of chemical equilibrium including the law of mass action and the Nernst equation. Other processes are irreversible and require consideration of reaction mechanisms and rates. The chemical composition of the crustal rocks of the earth and the composition of the ocean and the atmosphere are significant in evaluating sources of solutes in natural fresh water. The ways in which solutes are taken up or precipitated and the amounts present in solu-

tion are influenced by many environmental factors, especially climate, structure and position of rock strata, and biochemical effects associated with life cycles of plants and animals, both microscopic and macroscopic. Taken all together and in application with the further influence of the general circulation of all water in the hydrologic cycle, the chemical principles and environmental factors form a basis for the developing science of natural-water chemistry. Fundamental data used in the determination of water quality are obtained by the chemical analysis of water samples in the laboratory or on-site sensing of chemical properties in the field. Sampling is complicated by changes in composition of moving water and the effects of particulate suspended material. Most of the constituents determined are reported in gravimetric units, usually milligrams per liter or milliequivalents per liter. More than 60 constituents and properties are included in water analyses frequently enough to provide a basis for consideration of the sources from which each is generally derived, most probable forms of elements and ions in solution, solubility controls, expected concentration ranges and other chemical factors. Concentrations of elements that are commonly present in amounts less than a few tens of micrograms per liter cannot always be easily explained, but present information suggests many are controlled by solubility of hydroxide or carbonate or by sorption on solid particles. Chemical analyses may be grouped and statistically evaluated by averages, frequency distributions, or ion correlations to summarize large volumes of data. Graphing of analyses or of groups of analyses aids in showing chemical relationships among waters, probable sources of solutes, areal water-quality regimen, and water-resources evalua-

tion. Graphs may show water type based on chemical composition, relationships among ions, or groups of ions in individual waters or many waters considered simultaneously. The relationships of water quality to hydrologic parameters, such as stream discharge rate or ground-water flow patterns, can be shown by mathematical equations, graphs, and maps. About 75 water analyses selected from the literature are tabulated to illustrate the relationships described, and some of these, along with many others that are not tabulated, are also utilized in demonstrating graphing and mapping techniques. Relationships of water composition to source rock type are illustrated by graphs of some of the tabulated analyses. Activities of man may modify water composition extensively through direct effects of pollution and indirect results of water development, such as intrusion of sea water in ground-water aquifers. Water-quality standards for domestic, agricultural, and industrial use have been published by various agencies. Irrigation project requirements for water quality are particularly intricate. Fundamental knowledge of processes that control natural water composition is required for rational management of water quality.

Operations Management in Context provides students with excellent grounding in the theory and practice of operations management and its role within organizations. Structured in a clear and logical manner, it gradually leads newcomers to this subject through each topic area, highlighting key issues, and using practical case study material and examples to contextualize learning. Each chapter is structured logically and concludes with summary material to aid revision. Exercises and self-assessment questions are included to reinforce learning and main-

tain variety, with answers included at the end of the text.

Explains how to implement the best safety practices and why they work Reviews from the Third Edition "An excellent piece of work." —Safety Health Practitioner (SHP) "A useful fountain of knowledge." —Quality World "This is a book to be read now for its educational value and also to be kept on the shelf for easy future reference." —Chemistry International The Fourth Edition of *On the Practice of Safety* makes it possible for readers to master all the core subjects and practices that today's safety professionals need to know in order to provide optimal protection for their organizations' property and personnel. Like the previous editions, each chapter is a self-contained unit, making it easy for readers to focus on select topics of interest. Thoroughly revised and updated, this Fourth Edition reflects the latest research and safety practice standards. For example, author Fred Manuele has revised the design chapters to reflect the recently adopted American National Standard on Prevention through Design. In addition, readers will find new chapters dedicated to: Management of change and pre-job planning Indirect-to-direct accident cost ratios Leading and lagging indicators Opportunities for safety professionals to apply lean concepts Role of safety professionals in implementing sustainability Financial management concepts and practices that safety professionals should know Many chapters are highly thought-provoking, questioning long-accepted concepts in the interest of advancing and improving the professional practice of safety. Acclaimed by both students and instructors, *On the Practice of Safety* is a core textbook for both undergraduate and graduate degree programs in safety. Safety professionals should also refer to the

text in order to update and improve their safety skills and knowledge.

Everyone is familiar with the dodo and the woolly mammoth, but how many people have heard of the scimitar cat and the Falkland Island fox? *Extinct Animals* portrays over 60 remarkable animals that have been lost forever during the relatively recent geological past. Each entry provides a concise discussion of the history of the animal—how and where it lived, and how it became extinct—as well as the scientific discovery and analysis of the creature. In addition, this work examines what led to extinction—from the role of cyclical swings in the Earth's climate to the spread of humans and their activities. Many scientists believe that we are in the middle of a mass extinction right now, caused by the human undermining of the earth's complex systems that support life. Understanding what caused the extinction of animals in the past may help us understand and prevent the extinction of species in the future. *Extinct Animals* examines the biology and history of some of the most interesting creatures that have ever lived, including: The American Terror Bird, which probably became extinct over 1 million years ago, who were massive predators, some of which were almost 10 feet tall; the Rocky Mountain Locust, last seen in 1902, formed the most immense animal aggregations ever known, with swarms estimated to include over 10 trillion insects; the Giant Ground Sloth, which was as large as an elephant; and the Neandertals, the first Europeans, which co-existed with prehistoric *Homo sapiens*. *Extinct Animals* includes illustrations—many created for the work—that help the reader visualize the extinct creature, and each entry concludes with a list of resources for those

who wish to do further research.

As the sophistication of cyber-attacks increases, understanding how to defend critical infrastructure systems—energy production, water, gas, and other vital systems—becomes more important, and heavily mandated. *Industrial Network Security, Second Edition* arms you with the knowledge you need to understand the vulnerabilities of these distributed supervisory and control systems. The book examines the unique protocols and applications that are the foundation of industrial control systems, and provides clear guidelines for their protection. This how-to guide gives you thorough understanding of the unique challenges facing critical infrastructures, new guidelines and security measures for critical infrastructure protection, knowledge of new and evolving security tools, and pointers on SCADA protocols and security implementation. All-new real-world examples of attacks against control systems, and more diagrams of systems Expanded coverage of protocols such as 61850, Ethernet/IP, CIP, ISA-99, and the evolution to IEC62443 Expanded coverage of Smart Grid security New coverage of signature-based detection, exploit-based vs. vulnerability-based detection, and signature reverse engineering

John Ridley and Dick Pearce, both recognized specialists in machinery safety, guide the reader through the various standards, regulations and best practices relating to the safe design and use of machinery and show which standard is relevant for which type of machine. *Safety with Machinery* provides a basic grounding in machinery safety and covers safeguarding philosophy and strategy, typical hazards, risk assessment and reduction, guarding techniques, ergonomic considerations, safe use of equipment and plant layout. All types of safe-

guards are discussed – mechanical, interlocking, electrical / electronic / programmable, hydraulic, pneumatic. The new edition has been updated throughout in line with changes in regulations and standards. The section on electric, electronic and programmable safety systems has been expanded to reflect their increasing importance. The book now focuses on the harmonised standards (e.g. EN ISO 13849, IEC/EN 61131-2) which can be used by manufacturers to self-certify their machines for the European market without the need for third party examination, but also covers other relevant standards (e.g. IEC 62061). Many practical examples set the regulations in context and assist in the interpretation of the various standards. Safety with Machinery is essential reading for all engineers involved in machinery design and maintenance all over the world as every machine sold within or into the EU needs to conform to the harmonised standards. It also provides health and safety professionals, students and employee representatives, as well as certification bodies, health and safety inspectors and safety regulators with a comprehensive overview of machinery safety.

Get a realistic guide to producing construction documents that clearly communicate the interior space of new construction, remodeling, or installation projects with *Construction Drawings and Details for Interiors*. This highly visual book: includes such details as furniture, finishes, lighting, and others. features authors' drawings as well as those from practicing professionals. covers drafting fundamentals and conventions; drawing types, plans, and schedules; and computer-aided design. addresses graphic language as a communication tool. details the process of creating construction documents,

the use of computers, and various reproduction systems and standards. includes examples of both residential and commercial interiors. is an essential reference for NCIDQ examination. Order your copy today.

ISO 12100 the Ultimate Step-By-Step Guide 5starcooks What situation(s) led to this ISO 12100 Self Assessment? What threat is ISO 12100 addressing? How to Secure ISO 12100? How do we go about Comparing ISO 12100 approaches/solutions? How do we Lead with ISO 12100 in Mind? This premium ISO 12100 self-assessment will make you the credible ISO 12100 domain veteran by revealing just what you need to know to be fluent and ready for any ISO 12100 challenge. How do I reduce the effort in the ISO 12100 work to be done to get problems solved? How can I ensure that plans of action include every ISO 12100 task and that every ISO 12100 outcome is in place? How will I save time investigating strategic and tactical options and ensuring ISO 12100 costs are low? How can I deliver tailored ISO 12100 advice instantly with structured going-forward plans? There's no better guide through these mind-expanding questions than acclaimed best-selling author Gerard Blokdyk. Blokdyk ensures all ISO 12100 essentials are covered, from every angle: the ISO 12100 self-assessment shows succinctly and clearly that what needs to be clarified to organize the required activities and processes so that ISO 12100 outcomes are achieved. Contains extensive criteria grounded in past and current successful projects and activities by experienced ISO 12100 practitioners. Their mastery, combined with the easy elegance of the self-assessment, provides its superior value to you in knowing how to ensure the outcome of any efforts in ISO 12100 are maxi-

mized with professional results. Your purchase includes access details to the ISO 12100 self-assessment dashboard download which gives you your dynamically prioritized projects-ready tool and shows you exactly what to do next. Your exclusive instant access details can be found in your book. You will receive the following contents with New and Updated specific criteria: - The latest quick edition of the book in PDF - The latest complete edition of the book in PDF, which criteria correspond to the criteria in... - The Self-Assessment Excel Dashboard, and... - Example pre-filled Self-Assessment Excel Dashboard to get familiar with results generation ...plus an extra, special, resource that helps you with project managing. INCLUDES LIFETIME SELF ASSESSMENT UPDATES Every self assessment comes with Lifetime Updates and Lifetime Free Updated Books. Lifetime Updates is an industry-first feature which allows you to receive verified self assessment updates, ensuring you always have the most accurate information at your fingertips. Introduction to Design Engineering CRC Press Designing engineering products technical systems and/or transformation processes requires a range of information, know-how, experience, and engineering analysis, to find an optimal solution. Creativity and open-mindedness can be greatly assisted by systematic design engineering, which will ultimately lead to improved outcomes, documentation Risk Assessment John Wiley & Sons Covers the fundamentals of risk assessment and emphasizes taking a practical approach in the application of the techniques Written as a primer for students and employed safety professionals covering the fundamentals of risk assessment and emphasizing a practical approach in the application of the techniques Each chapter is developed as a

stand-alone essay, making it easier to cover a subject Includes interactive exercises, links, videos, and downloadable risk assessment tools Addresses criteria prescribed by the Accreditation Board for Engineering and Technology (ABET) for safety programs Safety with Machinery- Routledge John Ridley and Dick Pearce, both recognized specialists in machinery safety, guide the reader through the various standards, regulations and best practices relating to the safe design and use of machinery and show which standard is relevant for which type of machine. Safety with Machinery provides a basic grounding in machinery safety and covers safeguarding philosophy and strategy, typical hazards, risk assessment and reduction, guarding techniques, ergonomic considerations, safe use of equipment and plant layout. All types of safeguards are discussed - mechanical, interlocking, electrical / electronic / programmable, hydraulic, pneumatic. The new edition has been updated throughout in line with changes in regulations and standards. The section on electric, electronic and programmable safety systems has been expanded to reflect their increasing importance. The book now focuses on the harmonised standards (e.g. EN ISO 13849, IEC/EN 61131-2) which can be used by manufacturers to self-certify their machines for the European market without the need for third party examination, but also covers other relevant standards (e.g. IEC 62061). Many practical examples set the regulations in context and assist in the interpretation of the various standards. Safety with Machinery is essential reading for all engineers involved in machinery design and maintenance all over the world as every machine sold within or into the EU needs to conform to the harmonised standards. It also provides health and

safety professionals, students and employee representatives, as well as certification bodies, health and safety inspectors and safety regulators with a comprehensive overview of machinery safety. *On the Practice of Safety* John Wiley & Sons Explains how to implement the best safety practices and why they work. Reviews from the Third Edition "An excellent piece of work." —Safety Health Practitioner (SHP) "A useful fountain of knowledge." —Quality World "This is a book to be read now for its educational value and also to be kept on the shelf for easy future reference." —Chemistry International The Fourth Edition of *On the Practice of Safety* makes it possible for readers to master all the core subjects and practices that today's safety professionals need to know in order to provide optimal protection for their organizations' property and personnel. Like the previous editions, each chapter is a self-contained unit, making it easy for readers to focus on select topics of interest. Thoroughly revised and updated, this Fourth Edition reflects the latest research and safety practice standards. For example, author Fred Manuele has revised the design chapters to reflect the recently adopted American National Standard on Prevention through Design. In addition, readers will find new chapters dedicated to: Management of change and pre-job planning Indirect-to-direct accident cost ratios Leading and lagging indicators Opportunities for safety professionals to apply lean concepts Role of safety professionals in implementing sustainability Financial management concepts and practices that safety professionals should know Many chapters are highly thought-provoking, questioning long-accepted concepts in the interest of advancing and improving the professional practice of safety. Acclaimed by both students and instruc-

tors, *On the Practice of Safety* is a core textbook for both undergraduate and graduate degree programs in safety. Safety professionals should also refer to the text in order to update and improve their safety skills and knowledge. *Safety Critical Systems Handbook* Elsevier *Safety Critical Systems Handbook: A Straightforward Guide to Functional Safety, IEC 61508* (2010 Edition) and Related Standards, Including Process IEC 61511 and Machinery IEC 62061 AND ISO 13849, Third Edition, offers a practical guide to the functional safety standard IEC 61508. The book is organized into three parts. Part A discusses the concept of functional safety and the need to express targets by means of safety integrity levels. It places functional safety in context, along with risk assessment, likelihood of fatality, and the cost of conformance. It also explains the life-cycle approach, together with the basic outline of IEC 61508 (known as BS EN 61508 in the UK). Part B discusses functional safety standards for the process, oil, and gas industries; the machinery sector; and other industries such as rail, automotive, avionics, and medical electrical equipment. Part C presents case studies in the form of exercises and examples. These studies cover SIL targeting for a pressure let-down system, burner control system assessment, SIL targeting, a hypothetical proposal for a rail-train braking system, and hydroelectric dam and tidal gates. The only comprehensive guide to IEC 61508, updated to cover the 2010 amendments, that will ensure engineers are compliant with the latest process safety systems design and operation standards Helps readers understand the process required to apply safety critical systems standards Real-world approach helps users to interpret the standard, with case studies and best practice design exam-

ples throughout Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs Functional safety of machine controls DGUV/IFA The EN ISO 13849-1 standard, "Safety of machinery - Safety-related parts of control systems", contains provisions governing the design of such parts. This report is an update of BGIA Report 2/2008e of the same name. It describes the essential subject-matter of the standard in its third, revised 2015 edition, and explains its application with reference to numerous examples from the fields of electromechanics, fluidics, electronics and programmable electronics, including control systems employing mixed technologies. The standard is placed in its context of the essential safety requirements of the Machinery Directive, and possible methods for risk assessment are presented. Based upon this information, the report can be used to select the required Performance Level PLr for safety functions in control systems. The Performance Level PL which is actually attained is explained in detail. The requirements for attainment of the relevant Performance Level and its associated Categories, component reliability, levels of diagnostic coverage, software safety and measures for the prevention of systematic and common-cause failures are all discussed comprehensively. Background information is also provided on implementation of the requirements in real-case control systems. Numerous example circuits show, down to component level, how Performance Levels a to e can be engineered in the selected technologies with Categories B to 4. The examples provide information on the safety principles employed and on components with well-tried safety functionality. Numerous literature references permit closer study of the examples provided. The

report shows how the requirements of EN ISO 13849-1 can be implemented in engineering practice, and thus makes a contribution to consistent application and interpretation of the standard at national and international level. Risk Assessment John Wiley & Sons Covers the fundamentals of risk assessment and emphasizes taking a practical approach in the application of the techniques Written as a primer for students and employed safety professionals covering the fundamentals of risk assessment and emphasizing a practical approach in the application of the techniques Each chapter is developed as a stand-alone essay, making it easier to cover a subject Includes interactive exercises, links, videos, and downloadable risk assessment tools Addresses criteria prescribed by the Accreditation Board for Engineering and Technology (ABET) for safety programs Satisfying Safety Goals by Probabilistic Risk Assessment Springer Science & Business Media This book is a methodological approach to the goal-based safety design procedure that will soon be an international requirement. This is the first single volume book to describe how to satisfy safety goals by modern reliability engineering. Its focus is on the quantitative aspects of the international standards using a methodological approach. Case studies illustrate the methodologies presented. Smart Technologies for Precision Assembly Springer Nature This open access book constitutes the refereed post-conference proceedings of the 9th IFIP WG 5.5 International Precision Assembly Seminar, IPAS 2020, held virtually in December 2020. The 16 revised full papers and 10 revised short papers presented together with 1 keynote paper were carefully reviewed and selected from numerous submissions. The papers address topics such as assembly design and plann-

ing; assembly operations; assembly cells and systems; human centred assembly; and assistance methods in assembly. Cyber-Physical Security Springer This book focuses on the vulnerabilities of state and local services to cyber-threats and suggests possible protective action that might be taken against such threats. Cyber-threats to U.S. critical infrastructure are of growing concern to policymakers, managers and consumers. Information and communications technology (ICT) is ubiquitous and many ICT devices and other components are interdependent; therefore, disruption of one component may have a negative, cascading effect on others. Cyber-attacks might include denial of service, theft or manipulation of data. Damage to critical infrastructure through a cyber-based attack could have a significant impact on the national security, the economy, and the livelihood and safety of many individual citizens. Traditionally cyber security has generally been viewed as being focused on higher level threats such as those against the internet or the Federal government. Little attention has been paid to cyber-security at the state and local level. However, these governmental units play a critical role in providing services to local residents and consequently are highly vulnerable to cyber-threats. The failure of these services, such as waste water collection and water supply, transportation, public safety, utility services, and communication services, would pose a great threat to the public. Featuring contributions from leading experts in the field, this volume is intended for state and local government officials and managers, state and Federal officials, academics, and public policy specialists. Risk Assessment John Wiley & Sons Introduces risk assessment with key theories, proven methods, and state-of-the-art applica-

tions Risk Assessment: Theory, Methods, and Applications remains one of the few textbooks to address current risk analysis and risk assessment with an emphasis on the possibility of sudden, major accidents across various areas of practice—from machinery and manufacturing processes to nuclear power plants and transportation systems. Updated to align with ISO 31000 and other amended standards, this all-new 2nd Edition discusses the main ideas and techniques for assessing risk today. The book begins with an introduction of risk analysis, assessment, and management, and includes a new section on the history of risk analysis. It covers hazards and threats, how to measure and evaluate risk, and risk management. It also adds new sections on risk governance and risk-informed decision making; combining accident theories and criteria for evaluating data sources; and subjective probabilities. The risk assessment process is covered, as are how to establish context; planning and preparing; and identification, analysis, and evaluation of risk. Risk Assessment also offers new coverage of safe job analysis and semi-quantitative methods, and it discusses barrier management and HRA methods for offshore application. Finally, it looks at dynamic risk analysis, security and life-cycle use of risk. Serves as a practical and modern guide to the current applications of risk analysis and assessment, supports key standards, and supplements legislation related to risk analysis Updated and revised to align with ISO 31000 Risk Management and other new standards and includes new chapters on security, dynamic risk analysis, as well as life-cycle use of risk analysis Provides in-depth coverage on hazard identification, methodologically outlining the steps for use of checklists, conducting preliminary hazard anal-

ysis, and job safety analysis Presents new coverage on the history of risk analysis, criteria for evaluating data sources, risk-informed decision making, subjective probabilities, semi-quantitative methods, and barrier management Contains more applications and examples, new and revised problems throughout, and detailed appendices that outline key terms and acronyms Supplemented with a book companion website containing Solutions to problems, presentation material and an Instructor Manual Risk Assessment: Theory, Methods, and Applications, Second Edition is ideal for courses on risk analysis/risk assessment and systems engineering at the upper-undergraduate and graduate levels. It is also an excellent reference and resource for engineers, researchers, consultants, and practitioners who carry out risk assessment techniques in their everyday work. Accounting Principles Accounting Principles: A Business Perspective uses annual reports of real companies to illustrate many of the accounting concepts in use in business today. Gaining an understanding of accounting terminology and concepts, however, is not enough to ensure your success. You also need to be able to find information on the Internet, analyze various business situations, work effectively as a member of a team, and communicate your ideas clearly. Accounting Principles: A Business Perspective will give you an understanding of how to use accounting information to analyze business performance and make business decisions. The text takes a business perspective. We use the annual reports of real companies to illustrate many of the accounting concepts. You are familiar with many of the companies we use, such as The Limited, The Home Depot, and Coca-Cola Company. Gaining an understanding of accounting terminol-

ogy and concepts, however, is not enough to ensure your success. You also need to be able to find information on the Internet, analyze various business situations, work effectively as a member of a team, and communicate your ideas clearly. This text was developed to help you develop these skills. Maritime Economics RoutledgeNow in its second edition Maritime Economics provides a valuable introduction to the organisation and workings of the global shipping industry. The author outlines the economic theory as well as many of the operational practicalities involved. Extensively revised for the new edition, the book has many clear illustrations and tables. Topics covered include: * an overview of international trade * Maritime Law * economic organisation and principles * financing ships and shipping companies * market research and forecasting. The Interior Design Reference & Specification Book Rockport PublishersDIV In the world of interior design, thousands of bits of crucial information are scattered across a wide array of sources. The Interior Design Reference & Specification Book collects the information essential to planning and executing interior projects of all shapes and sizes, and distills it in a format that is as easy to use as it is to carry. You'll also find interviews with top practitioners drawn across the field of interior design. —Fundamentals provides a step-by-step overview of an interiors project, describing the scope of professional services, the project schedule, and the design and presentation tools used by designers. —Space examines ways of composing rooms as spatial environments while speaking to functional and life-safety concerns. —Surface identifies options in color, material, texture, and pattern, while addressing maintenance and performance issues. —Environments looks at

aspects of interior design that help create a specific mood or character, such as natural and artificial lighting, sound and smell. —Elements describes the selection and specification of furniture and fixtures, as well as other components essential to an interior environment, such as artwork and accessories. —Resources gathers a wealth of useful data, from sustainability guidelines to online sources for interiors-related research. /divGrowing Gourmet and Medicinal MushroomsTen Speed PressA detailed and comprehensive guide for growing and using gourmet and medicinal mushrooms commercially or at home. “Absolutely the best book in the world on how to grow diverse and delicious mushrooms.”—David Arora, author of Mushrooms Demystified With precise growth parameters for thirty-one mushroom species, this bible of mushroom cultivation includes gardening tips, state-of-the-art production techniques, realistic advice for laboratory and growing room construction, tasty mushroom recipes, and an invaluable troubleshooting guide. More than 500 photographs, illustrations, and charts clearly identify each stage of cultivation, and a twenty-four-page color insert spotlights the intense beauty of various mushroom species. Whether you’re an ecologist, a chef, a forager, a pharmacologist, a commercial grower, or a home gardener—this indispensable handbook will get you started, help your garden succeed, and make your mycological landscapes the envy of the neighborhood.E-maintenanceSpringer Science & Business MediaE-maintenance is the synthesis of two major trends in today’s society: the growing importance of maintenance as a key technology and the rapid development of information and communication technology. E-maintenance gives the reader an overview of the possi-

bilities offered by new and advanced information and communication technology to achieve efficient maintenance solutions in industry, energy production and transportation, thereby supporting sustainable development in society. Sixteen chapters cover a range of different technologies, such as: new micro sensors, on-line lubrication sensors, smart tags for condition monitoring, wireless communication and smart personal digital assistants. E-maintenance also discusses semantic data-structuring solutions; ontology structured communications; implementation of diagnostics and prognostics; and maintenance decision support by economic optimisation. It includes four industrial cases that are both described and analysed in detail, with an outline of a global application solution. E-maintenance is a useful tool for engineers and technicians who wish to develop e-maintenance in industrial sites. It is also a source of new and stimulating ideas for researchers looking to make the next step towards sustainable development.Industrial Network SecuritySynpressAs the sophistication of cyber-attacks increases, understanding how to defend critical infrastructure systems—energy production, water, gas, and other vital systems—becomes more important, and heavily mandated. Industrial Network Security, Second Edition arms you with the knowledge you need to understand the vulnerabilities of these distributed supervisory and control systems. The book examines the unique protocols and applications that are the foundation of industrial control systems, and provides clear guidelines for their protection. This how-to guide gives you thorough understanding of the unique challenges facing critical infrastructures, new guidelines and security measures for critical infrastructure protection, knowledge

of new and evolving security tools, and pointers on SCADA protocols and security implementation. All-new real-world examples of attacks against control systems, and more diagrams of systems Expanded coverage of protocols such as 61850, Ethernet/IP, CIP, ISA-99, and the evolution to IEC62443 Expanded coverage of Smart Grid security New coverage of signature-based detection, exploit-based vs. vulnerability-based detection, and signature reverse engineering-Pipeline Rules of Thumb HandbookElsevierNow in its sixth edition, Pipeline Rules of Thumb Handbook has been and continues to be the standard resource for any professional in the pipeline industry. A practical and convenient reference, it provides quick solutions to the everyday pipeline problems that the pipeline engineer, contractor, or designer faces. Pipeline Rules of Thumb Handbook assembles hundreds of shortcuts for pipeline construction, design, and engineering. Workable "how-to" methods, handy formulas, correlations, and curves all come together in this one convenient volume. Save valuable time and effort using the thousands of illustrations, photographs, tables, calculations, and formulas available in an easy to use format Updated and revised with new material on project scoping, plastic pipe data, HDPE pipe data, fiberglass pipe, NEC tables, trenching, and much more A book you will use day to day guiding every step of pipeline design and maintenanceISO 31000: 2018 Enterprise Risk ManagementGreg HutchinsWhat is ISO 31000: Enterprise Risk Management? International Organization for Standardization (ISO) developed ISO 31000 as its risk management guideline for its management system standards. More than 60 countries have adopted ISO 31000 as their national risk management standard. ISO

31000: Enterprise Risk Management is the first book to address: ISO Enterprise Risk Management, risk based, problem solving, risk based, decision making, Risk Based Thinking, and governance, risk, and compliance requirements. Everyone who is certified to ISO 9001:2015 needs to read this book to understand and implement Risk Based Thinking in ISO 9001:2015 and newer ISO standards. What This Book Can Do for You? · Describes how you can architect, design, deploy and assure risk controls that are appropriate to your organization's context and risk appetite? · Supports executive management with operational governance, risk management, and compliance (GRC). · Identifies emerging and current risks so plans can be developed to control, manage, and mitigate risks. · Identifies emerging and current opportunities so appropriate investments can be pursued. · Increases the probability of success in achieving the organization's strategic plan and mission critical objectives · Explains key risk concepts such as RBT, risk management assessment, risk management, VUCA, risk context, Risk Maturity, etc. · Explains and gives examples of ISO 31000 risk management principles and risk management framework. · Explains in detail ISO 31000, ISO 31010, and other key risk standards. · Provides an example of an ISO 31000 risk management process that you can design and deploy in your organization based on context and maturity. · Determines clear accountability, ownership, and responsibility of risk throughout the organization. · Supports learning, simplification, and innovation strategies to ensure optimized use of resources.Operations Management in ContextRoutledge-Operations Management in Context provides students with excellent grounding in the theory and practice of operations

management and its role within organizations. Structured in a clear and logical manner, it gradually leads newcomers to this subject through each topic area, highlighting key issues, and using practical case study material and examples to contextualize learning. Each chapter is structured logically and concludes with summary material to aid revision. Exercises and self-assessment questions are included to reinforce learning and maintain variety, with answers included at the end of the text.

Requirements Engineering
Springer Science & Business Media
Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, *Requirements Engineering* gives useful hints to practitioners on how to write and structure requirements. It explains the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Covering a generic multi-layer requirements process, the book discusses the key elements of effective requirements management. The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at: <http://www.requirementsengineering.info>

Advanced Safety Management Focusing on Z10 and Serious Injury Prevention
John Wiley & Sons
Learn how to improve the effectiveness of safety and health management systems by adopting ANSI Z10 provisions and avoid serious workplace injuries. This reference addresses

specific provisions, including risk assessment methods and prioritization; applying a prescribed hierarchy of controls; implementing safety design reviews; and more. It also explains how to integrate best practices for the prevention of serious injuries in your workplace. See how implementing the ANSI Z10 standard can enhance your company's productivity, cost efficiency, and quality.

Switchgear Manual
Extinct Animals: An Encyclopedia of Species that Have Disappeared during Human History
Greenwood
Everyone is familiar with the dodo and the woolly mammoth, but how many people have heard of the scimitar cat and the Falkland Island fox? *Extinct Animals* portrays over 60 remarkable animals that have been lost forever during the relatively recent geological past. Each entry provides a concise discussion of the history of the animal—how and where it lived, and how it became extinct—as well as the scientific discovery and analysis of the creature. In addition, this work examines what led to extinction—from the role of cyclical swings in the Earth's climate to the spread of humans and their activities. Many scientists believe that we are in the middle of a mass extinction right now, caused by the human undermining of the earth's complex systems that support life. Understanding what caused the extinction of animals in the past may help us understand and prevent the extinction of species in the future. *Extinct Animals* examines the biology and history of some of the most interesting creatures that have ever lived, including: The American Terror Bird, which probably became extinct over 1 million years ago, who were massive predators, some of which were almost 10 feet tall; the Rocky Mountain Locust, last seen in 1902, formed the most immense animal aggregations ever known, with swarms

estimated to include over 10 trillion insects; the Giant Ground Sloth, which was as large as an elephant; and the Neandertals, the first Europeans, which co-existed with prehistoric Homo sapiens. Extinct Animals includes illustrations—many created for the work—that help the reader visualize the extinct creature, and each entry concludes with a list of resources for those who wish to do further research.

A Guide to Scaffold Use in the Construction Industry Construction Drawings and Details for Interiors Wiley Get a realistic guide to producing construction documents that clearly communicate the interior space of new construction, remodeling, or installation projects with Construction Drawings and Details for Interiors. This highly visual book: includes such details as furniture, finishes, lighting, and others. features authors' drawings as well as those from practicing professionals. covers drafting fundamentals and conventions; drawing types, plans, and schedules; and computer-aided design. addresses graphic language as a communication tool. details the process of creating construction documents, the use of computers, and various reproduction systems and standards. includes examples of both residential and commercial interiors. is an essential reference for NCIDQ examination. Order your copy today.

Risk Assessment IntechOpen Risk assessment is one of the main parts of complex systematic research of natural and man-made hazards and risks together with the concepts of risk analysis, risk management, acceptable risk, and risk reduction. It is considered as the process of making a recommendation on whether existing risks are acceptable and present risk control measures are adequate, and if they are not, whether alternative risk control measures are justified or will be implemented. Risk as-

essment incorporates the risk analysis and risk evaluation phases. Risk management is considered as the complete process of risk assessment, risk control, and risk reduction. The book reflects on the state-of-the-art problems and addresses the risk assessment to establish the criteria for ranking risk posed by different types of natural or man-made hazards and disasters, to quantify the impact that hazardous event or process has on population and structures, and to enhance the strategies for risk reduction and avoiding.

Machinery's Handbook Machinery's Handbook has been the most popular reference work in metalworking, design, engineering and manufacturing facilities, and in technical schools and colleges throughout the world for nearly 100 years. It is universally acknowledged as an extraordinarily authoritative, comprehensive, and practical tool, providing its users with the most fundamental and essential aspects of sophisticated manufacturing practice. The 29th edition of the "Bible of the Metalworking Industries" contains major revisions of existing content, as well as new material on a variety of topics. It is the essential reference for Mechanical, Manufacturing, and Industrial Engineers, Designers, Draftsmen, Toolmakers, Machinists, Engineering and Technology Students, and the serious Home Hobbyist. New to this edition ? micromachining, expanded material on calculation of hole coordinates, an introduction to metrology, further contributions to the sheet metal and presses section, shaft alignment, taps and tapping, helical coil screw thread inserts, solid geometry, distinguishing between bolts and screws, statistics, calculating thread dimensions, keys and keyways, miniature screws, metric screw threads, and fluid mechanics. Numerous major sections have been

extensively reworked and renovated throughout, including Mathematics, Mechanics and Strength of Materials, Properties of Materials, Dimensioning, Gaging and Measuring, Machining Operations, Manufacturing Process, Fasteners, Threads and Threading, and Machine Elements. The metric content has been greatly expanded. Throughout the book, wherever practical, metric units are shown adjacent to the U.S. customary units in the text. Many formulas are now presented with equivalent metric expressions, and additional metric examples have been added. The detailed tables of contents located at the beginning of each section have been expanded and fine-tuned to make finding topics easier and faster. The entire text of this edition, including all the tables and equations, has been reset, and a great many of the figures have been redrawn. The page count has increased by nearly 100 pages, to 2,800 pages. Updated Standards.

Managing Health and Safety in Swimming Pools

Health and Safety Executive (Hse)

This booklet provides guidance for those who have any involvement with the operation and management of health and safety in swimming pools: primarily pool owners (including local authority clients), pool operators (including management contractors), architects, engineers, designers, manufacturers and constructors. Aspects of this guidance will also apply to pool hirers. Its aim is to provide guidance on the risks associated with swimming pool operation and the precautions which may be taken to help achieve a safer environment for people who use swimming pools and employees who work at them. The revision brings the guidance up to date with changes in health and safety law and new developments in relation to equipment, facilities and supervision arrangements.

Study and

Interpretation of the Chemical Characteristics of Natural Water

The chemical composition of natural water is derived from many different sources of solutes, including gases and aerosols from the atmosphere, weathering and erosion of rocks and soil, solution or precipitation reactions occurring below the land surface, and cultural effects resulting from activities of man. Some of the processes of solution or precipitation of minerals can be closely evaluated by means of principles of chemical equilibrium including the law of mass action and the Nernst equation. Other processes are irreversible and require consideration of reaction mechanisms and rates. The chemical composition of the crustal rocks of the earth and the composition of the ocean and the atmosphere are significant in evaluating sources of solutes in natural fresh water. The ways in which solutes are taken up or precipitated and the amounts present in solution are influenced by many environmental factors, especially climate, structure and position of rock strata, and biochemical effects associated with life cycles of plants and animals, both microscopic and macroscopic. Taken all together and in application with the further influence of the general circulation of all water in the hydrologic cycle, the chemical principles and environmental factors form a basis for the developing science of natural-water chemistry. Fundamental data used in the determination of water quality are obtained by the chemical analysis of water samples in the laboratory or onsite sensing of chemical properties in the field. Sampling is complicated by changes in composition of moving water and the effects of particulate suspended material. Most of the constituents determined are reported in gravimetric units, usually milligrams per liter or milliequivalents per

liter. More than 60 constituents and properties are included in water analyses frequently enough to provide a basis for consideration of the sources from which each is generally derived, most probable forms of elements and ions in solution, solubility controls, expected concentration ranges and other chemical factors. Concentrations of elements that are commonly present in amounts less than a few tens of micrograms per liter cannot always be easily explained, but present information suggests many are controlled by solubility of hydroxide or carbonate or by sorption on solid particles. Chemical analyses may be grouped and statistically evaluated by averages, frequency distributions, or ion correlations to summarize large volumes of data. Graphing of analyses or of groups of analyses aids in showing chemical relationships among waters, probable sources of solutes, areal water-quality regimen, and water-resources evaluation. Graphs may show water type based on chemical composition, relationships among ions, or groups of ions in individual waters or many waters considered simultaneously. The relationships of water quality to hydrologic parameters, such as stream discharge rate or ground-water flow patterns, can be shown by mathematical equations, graphs, and maps. About 75 water analyses selected from the literature are tabulated to illustrate the relationships described, and some of these, along with many others that are not tabulated, are also utilized in demonstrating graphing and mapping techniques. Relationships of water composition to source rock type are illustrated by graphs of some of the tabulated analyses. Activities of man may modify water composition extensively through direct effects of pollution and indirect results of water development, such as intrusion of sea wa-

ter in ground-water aquifers. Water-quality standards for domestic, agricultural, and industrial use have been published by various agencies. Irrigation project requirements for water quality are particularly intricate. Fundamental knowledge of processes that control natural water composition is required for rational management of water quality. Design NewsSteel Building Design

This open access book constitutes the refereed post-conference proceedings of the 9th IFIP WG 5.5 International Precision Assembly Seminar, IPAS 2020, held virtually in December 2020. The 16 revised full papers and 10 revised short papers presented together with 1 keynote paper were carefully reviewed and selected from numerous submissions. The papers address topics such as assembly design and planning; assembly operations; assembly cells and systems; human centred assembly; and assistance methods in assembly.

Learn how to improve the effectiveness of safety and health management systems by adopting ANSI Z10 provisions and avoid serious workplace injuries. This reference addresses specific provisions, including risk assessment methods and prioritization; applying a prescribed hierarchy of controls; implementing safety design reviews; and more. It also explains how to integrate best practices for the prevention of serious injuries in your workplace. See how implementing the ANSI Z10 standard can enhance your company's productivity, cost efficiency, and quality.

Designing engineering products technical systems and/or transformation processes requires a range of information, know-how, experience, and engineering analysis, to find an optimal solution. Creativity and open-mindedness can be

greatly assisted by systematic design engineering, which will ultimately lead to improved outcomes, documentation

Risk assessment is one of the main parts of complex systematic research of natural and man-made hazards and risks together with the concepts of risk analysis, risk management, acceptable risk, and risk reduction. It is considered as the process of making a recommendation on whether existing risks are acceptable and present risk control measures are adequate, and if they are not, whether alternative risk control measures are justified or will be implemented. Risk assessment incorporates the risk analysis and risk evaluation phases. Risk management is considered as the complete process of risk assessment, risk control, and risk reduction. The book reflects on the state-of-the-art problems and addresses the risk assessment to establish the criteria for ranking risk posed by different types of natural or man-made hazards and disasters, to quantify the impact that hazardous event or process has on population and structures, and to enhance the strategies for risk reduction and avoiding.

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dance up to date with changes in health and safety law and new developments in relation to equipment, facilities and supervision arrangements.

This book is a methodological approach to the goal-based safety design procedure that will soon be an international requirement. This is the first single volume book to describe how to satisfy safety goals by modern reliability engineering. Its focus is on the quantitative aspects of the international standards using a methodological approach. Case studies illustrate the methodologies presented.

What is ISO 31000: Enterprise Risk Management? International Organization for Standardization (ISO) developed ISO 31000 as its risk management guideline for its management system standards. More than 60 countries have adopted ISO 31000 as their national risk management standard. ISO 31000: Enterprise Risk Management is the first book to address: ISO Enterprise Risk Management, risk based, problem solving, risk based, decision making, Risk Based Thinking, and governance, risk, and compliance requirements. Everyone who is certified to ISO 9001:2015 needs to read this book to understand and implement Risk Based Thinking in ISO 9001:2015 and newer ISO standards. What This Book Can Do for You? · Describes how you can architect, design, deploy and assure risk controls that are appropriate to your organization's context and risk appetite? · Supports executive management with operational governance, risk management, and compliance (GRC). · Identifies emerging and current risks so plans can be developed to control, manage, and mitigate risks. · Identifies emerging and current opportunities so appropriate investments can be pursued. · Increases the probability of success in achieving the organization's strategic plan and mission

critical objectives · Explains key risk concepts such as RBT, risk management assessment, risk management, VUCA, risk context, Risk Maturity, etc. · Explains and gives examples of ISO 31000 risk management principles and risk management framework. · Explains in detail ISO 31000, ISO 31010, and other key risk standards. · Provides an example of an ISO 31000 risk management process that you can design and deploy in your organization based on context and maturity. · Determines clear accountability, ownership, and responsibility of risk throughout the organization. · Supports learning, simplification, and innovation strategies to ensure optimized use of resources.

Accounting Principles: A Business Perspective uses annual reports of real companies to illustrate many of the accounting concepts in use in business today. Gaining an understanding of accounting terminology and concepts, however, is not enough to ensure your success. You also need to be able to find information on the Internet, analyze various business situations, work effectively as a member of a team, and communicate your ideas clearly. Accounting Principles: A Business Perspective will give you an understanding of how to use accounting information to analyze business performance and make business decisions. The text takes a business perspective. We use the annual reports of real companies to illustrate many of the accounting concepts. You are familiar with many of the companies we use, such as The Limited, The Home Depot, and Coca-Cola Company. Gaining an understanding of accounting terminology and concepts, however, is not enough to ensure your success. You also need to be able to find information on the Internet, analyze various business sit-

uations, work effectively as a member of a team, and communicate your ideas clearly. This text was developed to help you develop these skills.

Now in its second edition Maritime Economics provides a valuable introduction to the organisation and workings of the global shipping industry. The author outlines the economic theory as well as many of the operational practicalities involved. Extensively revised for the new edition, the book has many clear illustrations and tables. Topics covered include: * an overview of international trade * Maritime Law * economic organisation and principles * financing ships and shipping companies * market research and forecasting.

Introduces risk assessment with key theories, proven methods, and state-of-the-art applications Risk Assessment: Theory, Methods, and Applications remains one of the few textbooks to address current risk analysis and risk assessment with an emphasis on the possibility of sudden, major accidents across various areas of practice—from machinery and manufacturing processes to nuclear power plants and transportation systems. Updated to align with ISO 31000 and other amended standards, this all-new 2nd Edition discusses the main ideas and techniques for assessing risk today. The book begins with an introduction of risk analysis, assessment, and management, and includes a new section on the history of risk analysis. It covers hazards and threats, how to measure and evaluate risk, and risk management. It also adds new sections on risk governance and risk-informed decision making; combining accident theories and criteria for evaluating data sources; and subjective probabilities. The risk assessment process is covered, as are how to establish context; planning and preparing; and identifica-

tion, analysis, and evaluation of risk. Risk Assessment also offers new coverage of safe job analysis and semi-quantitative methods, and it discusses barrier management and HRA methods for offshore application. Finally, it looks at dynamic risk analysis, security and life-cycle use of risk. Serves as a practical and modern guide to the current applications of risk analysis and assessment, supports key standards, and supplements legislation related to risk analysis Updated and revised to align with ISO 31000 Risk Management and other new standards and includes new chapters on security, dynamic risk analysis, as well as life-cycle use of risk analysis Provides in-depth coverage on hazard identification, methodologically outlining the steps for use of checklists, conducting preliminary hazard analysis, and job safety analysis Presents new coverage on the history of risk analysis, criteria for evaluating data sources, risk-informed decision making, subjective probabilities, semi-quantitative methods, and barrier management Contains more applications and examples, new and revised problems throughout, and detailed appendices that outline key terms and acronyms Supplemented with a book companion website containing Solutions to problems, presentation material and an Instructor Manual Risk Assessment: Theory, Methods, and Applications, Second Edition is ideal for courses on risk analysis/risk assessment and systems engineering at the upper-undergraduate and graduate levels. It is also an excellent reference and resource for engineers, researchers, consultants, and practitioners who carry out risk assessment techniques in their everyday work. The EN ISO 13849-1 standard, "Safety of machinery – Safety-related parts of con-

trol systems", contains provisions governing the design of such parts. This report is an update of BGIA Report 2/2008e of the same name. It describes the essential subject-matter of the standard in its third, revised 2015 edition, and explains its application with reference to numerous examples from the fields of electromechanics, fluidics, electronics and programmable electronics, including control systems employing mixed technologies. The standard is placed in its context of the essential safety requirements of the Machinery Directive, and possible methods for risk assessment are presented. Based upon this information, the report can be used to select the required Performance Level PLr for safety functions in control systems. The Performance Level PL which is actually attained is explained in detail. The requirements for attainment of the relevant Performance Level and its associated Categories, component reliability, levels of diagnostic coverage, software safety and measures for the prevention of systematic and common-cause failures are all discussed comprehensively. Background information is also provided on implementation of the requirements in real-case control systems. Numerous example circuits show, down to component level, how Performance Levels a to e can be engineered in the selected technologies with Categories B to 4. The examples provide information on the safety principles employed and on components with well-trying safety functionality. Numerous literature references permit closer study of the examples provided. The report shows how the requirements of EN ISO 13849-1 can be implemented in engineering practice, and thus makes a contribution to consistent application and interpretation of the standard at national and international level.

Machinery's Handbook has been the most popular reference work in metalworking, design, engineering and manufacturing facilities, and in technical schools and colleges throughout the world for nearly 100 years. It is universally acknowledged as an extraordinarily authoritative, comprehensive, and practical tool, providing its users with the most fundamental and essential aspects of sophisticated manufacturing practice. The 29th edition of the "Bible of the Metalworking Industries" contains major revisions of existing content, as well as new material on a variety of topics. It is the essential reference for Mechanical, Manufacturing, and Industrial Engineers, Designers, Draftsmen, Toolmakers, Machinists, Engineering and Technology Students, and the serious Home Hobbyist. New to this edition ? micromachining, expanded material on calculation of hole coordinates, an introduction to metrology, further contributions to the sheet metal and presses section, shaft alignment, taps and tapping, helical coil screw thread inserts, solid geometry, distinguishing between bolts and screws, statistics, calculating thread dimensions, keys and keyways, miniature screws, metric screw threads, and fluid mechanics. Numerous major sections have been extensively reworked and renovated throughout, including Mathematics, Mechanics and Strength of Materials, Properties of Materials, Dimensioning, Gaging and Measuring, Machining Operations, Manufacturing Process, Fasteners, Threads and Threading, and Machine Elements. The metric content has been greatly expanded. Throughout the book, wherever practical, metric units are shown adjacent to the U.S. customary units in the text. Many formulas are now presented with equivalent metric expressions, and additional metric examples

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This book focuses on the vulnerabilities of state and local services to cyber-threats and suggests possible protective action that might be taken against such threats. Cyber-threats to U.S. critical infrastructure are of growing concern to policymakers, managers and consumers. Information and communications technology (ICT) is ubiquitous and many ICT devices and other components are interdependent; therefore, disruption of one component may have a negative, cascading effect on others. Cyber-attacks might include denial of service, theft or manipulation of data. Damage to critical infrastructure through a cyber-based attack could have a significant impact on the national security, the economy, and the livelihood and safety of many individual citizens. Traditionally cyber security has generally been viewed as being focused on higher level threats such as those against the internet or the Federal government. Little attention has been paid to cyber-security at the state and local level. However, these governmental units play a critical role in providing services to local residents and consequently are highly vulnerable to cyber-threats. The failure of these services, such as waste water collection and water supply, transportation, public safety, utility services, and communication services, would pose a great threat to the public. Featuring contributions from leading ex-

perts in the field, this volume is intended for state and local government officials and managers, state and Federal officials, academics, and public policy specialists.