

Sustainable Design A Critical Guide David Bergman

Sustainable Graphic Design Sustainable Communities
Design Handbook Elements of Sustainable
Architecture Sustainable Design Fundamentals of
Integrated Design for Sustainable Building Sustainable
Design Handbook of Research on Pedagogical
Innovations for Sustainable Development Sustainable
Urban Design Planning for Climate Change Sustainable
Design Basics Sustainable Urbanism Sustainable
Architectural Design Understanding Green Building
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Sustainability Science How Buildings Learn Integral
Sustainable Design Sustainable Design Through
Process Integration Green Building Designing for
Sustainability Plumbing, Electricity, Acoustics Global
Sustainable Communities Handbook The Eco-Home
Design Guide Building Reuse Guide to the LEED Green
Associate Exam Sustainability Science Handbook of
Sustainability Science and Research BIM in Small-Scale
Sustainable Design Greener Products The Handbook of
Design for Sustainability Product Design and
Sustainability Sustainable Construction Dense + Green
Cities The Greening of Architecture Designed for the
Future Pursuing Sustainability The Sustainable Design
Book Strategies for Sustainable Architecture Routledge
International Handbook of Sustainable
Development Sustainable Design for the Built
Environment

Sustainable Graphic Design

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This book provides an overview of the large and interdisciplinary literature on the substance and process of urban climate change planning and design, using the most important articles from the last 15 years to engage readers in understanding problems and finding solutions to this increasingly critical issue. The Reader's particular focus is how the impacts of climate change can be addressed in urban and suburban environments—what actions can be taken, as well as the need for and the process of climate planning. Both reducing greenhouse gas emissions as well as adapting to future climate are explored. Many of the emerging best practices in this field involve improving the green infrastructure of the city and region—providing better on-site stormwater management, more urban greening to address excess heat, zoning for regional patterns of open space and public transportation corridors, and similar actions. These actions may also improve current public health and livability in cities, bringing benefits now and into the future. This Reader is innovative in bringing climate adaptation and green infrastructure together, encouraging a more hopeful perspective on the great challenge of climate change by exploring both the problems of climate change and local solutions.

Sustainable Communities Design Handbook

An accessible, climate-diverse guide that transforms readers from sustainable design novices to whole-solution problem solvers. Sustainable Design Basics is a student-friendly introduction to a holistic and

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integral view of sustainable design. Comprehensive in scope, this textbook presents basic technical information, sustainability strategies, and a practical, step-by-step approach for sustainable building projects. Clear and relatable chapters illustrate how to identify the factors that reduce energy use, solve specific sustainable design problems, develop holistic design solutions, and address the social and cultural aspects of sustainable design. Requiring no prior knowledge of the subject, the text's easy-to-follow methodology leads readers through the fundamental sustainable design principles for the built environment. Sustainably-constructed and maintained buildings protect the health and improve the productivity of their occupants, as well as help to restore the global ecosystem. The authors, leading practitioners and educators in sustainable design, have created a resource that provides a solid introduction to broad level sustainability thinking that students can take forward into their professional practice. Topics include space planning for sustainable design, integrative and collaborative design, standards and rating systems, real-world strategies to conserve energy and resources through leveraging renewable natural resources and innovative construction techniques and their impact on our environment. Usable and useful both in and beyond the classroom, this book: Covers building location strategies, building envelopes and structures, integration of passive and active systems, green materials, and project presentation Examines cultural factors, social equity, ecological systems, and aesthetics Provides diverse student exercises that vary by climate, geography, setting, perspective, and

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typology Features a companion website containing videos for each sustainable strategy, matrices, templates, Sketch-Up and AutoCAD files, PowerPoint slides, and extensive instructor resources Sustainable Design Basics is an important resource aimed at undergraduate architecture and interior design students, or first-year graduate students, as well as design professionals wishing to integrate sustainable design knowledge and techniques into their practice.

Elements of Sustainable Architecture

Sustainable Design

Sustainability has emerged as a central issue for contemporary societies and for the world community as a whole. Furthermore, many of the social and environmental concerns that are embodied in the term 'sustainability' are directly or indirectly related to design. Designers help to define our human made environment - how it is produced, how it is used, and how long it endures. Despite some forty years of development and increased awareness of the critical relationships that exist between design decisions and modes of production, energy use, environmental impacts, the nature of work and human exploitation, design for sustainability is still not widely understood or followed. The Handbook of Design for Sustainability presents a comprehensive, state-of-the-art overview of this crucial subject - its development, its methods, its practices and its potential futures. Bringing together leading international scholars and new

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researchers to provide a substantive insight into the latest thinking and research within the field, The Handbook covers a breadth of historical and theoretical understandings and includes a series of original essays that explore methods and approaches for designers and design educators. The Handbook presents the first systematic overview of the subject that, in addition to methods and examples, includes historical perspectives, philosophical approaches, business analyses, educational insights and emerging thinking. It is an invaluable resource for design researchers and students as well as design practitioners and private and public sector organizations wishing to develop more sustainable directions.

Fundamentals of Integrated Design for Sustainable Building

In *Designed for the Future*, author Jared Green asks eighty of today's most innovative architects, urban planners, landscape architects, journalists, artists, and environmental leaders the same question: what gives you the hope that a sustainable future is possible? Their imaginative answers—covering everything from the cooling strategies employed at Cambodia's ancient temple city of Angkor Wat to the use of cutting-edge eco-friendly mushroom board as a replacement for Styrofoam—show the way to our future success on earth and begin a much-needed dialogue about what we can realistically accomplish in the decades ahead. Featuring an international roster of leading design thinkers including:

- Biomimicry

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pioneer Janine Benyus • Curator Barry Bergdoll • Educator and author Alan Berger • Environmentalist and author Lester Brown • Architect Rick Cook • Urban Planner Paul Farmer • Critic Christopher Hume • Architect Bjarke Ingels • Landscape designer Mia Lehrer • Architect Rob Rogers • Critic Inga Saffron • Artist Janet Echelman

Sustainable Design

An essential guide to sustainable development for students and practitioners Sustainability is a global imperative and a scientific challenge like no other. This concise guide provides students and practitioners with a strategic framework for linking knowledge with action in the pursuit of sustainable development, and serves as an invaluable companion to more narrowly focused courses dealing with sustainability in particular sectors such as energy, food, water, and housing, or in particular regions of the world. Written by leading experts, Pursuing Sustainability shows how more inclusive and interdisciplinary approaches and systems perspectives can help you achieve your sustainability objectives. It stresses the need for understanding how capital assets are linked to sustainability goals through the complex adaptive dynamics of social-environmental systems, how committed people can use governance processes to alter those dynamics, and how successful interventions can be shaped through collaborations among researchers and practitioners on the ground. The ideal textbook for undergraduate and graduate students and an invaluable resource for anyone

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working in this fast-growing field, Pursuing Sustainability also features case studies, a glossary, and suggestions for further reading. Provides a strategic framework for linking knowledge with action Draws on the latest cutting-edge science and practices Serves as the ideal companion text to more narrowly focused courses Utilizes interdisciplinary approaches and systems perspectives Illustrates concepts with a core set of case studies used throughout the book Written by world authorities on sustainability An online illustration package is available to professors

Handbook of Research on Pedagogical Innovations for Sustainable Development

Sustainable Design for the Built Environment marks the transition of sustainable design from a specialty service to the mainstream approach for creating a healthy and resilient built environment. This groundbreaking and transformative approach introduces sustainable design in a clear, concise, easy-to-read format. This book takes the reader deep into the foundations of sustainable design, and creates a holistic and integrative approach addressing the social, cultural, ecological, and aesthetic aspects in addition to the typical performance-driven goals. The first section of the book is themed around the origins, principles, and frameworks of sustainable design aimed at inspiring a deeper, broader, and more inclusive view of sustainability. The second section examines strategies such as biophilia and biomimicry, adaptation and resilience, health and well-being. The

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third section examines the application of sustainability principles from the global, urban, district, building, and human scale, illustrating how a systems thinking approach allows sustainable design to span the context of time, space, and varied perspectives. This textbook is intended to inspire a new vision for the future that unites human activity with natural processes to form a regenerative, coevolutionary model for sustainable design. By allowing the reader an insightful look into the history, motivations, and values of sustainable design, they begin to see sustainable design, not only as a way to deliver green buildings, but as a comprehensive and transformative meta-framework that is so needed in every sector of society. Supported by extensive online resources including videos and PowerPoints for each chapter, this book will be essential reading for students of sustainability and sustainable design.

Sustainable Urban Design

By the end of the twenty-first century it is thought that three-quarters of the world's population will be urban; our future is in cities. Making these cities healthy, vibrant and sustainable is an exceptional challenge which this book addresses. It sets out some of the basic principles of the design of our future cities and, through a series of carefully-selected case studies from leading designers' experience, illustrates how these ideas can be put into practice. Building on the first edition's original format of design guidance and case studies, this new edition updates the ideas and techniques resulting from further research and

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practice by the contributors. This book emphasises the enormous progress made towards exciting new designs that integrate good design with resource efficiency.

Planning for Climate Change

A companion to Understanding Green Building Guidelines, this primer explains green building products—what they are and how to choose them. From eco-friendly sheetrock to sustainable paint finishes, the green building movement is gaining momentum. But with new products, manufacturers, and standards being introduced routinely, how are architects or designers to know what's best for their projects? This book summarizes what is available and the considerations for selecting sustainable materials.

Sustainable Design Basics

For sustainable architecture to become a reality, the way we design buildings needs to change. Many architects are concerned that sustainable technologies may interfere with a building's aesthetic appearance, and so these are often 'added on' once the design process is complete. Elements of Sustainable Architecture solves this dilemma by helping students to develop the design skills they need to create sustainable buildings - ensuring that ecological considerations are applied throughout the design process. Restoring the primacy of aesthetics and creativity to sustainable design, the book focuses on strategies that have the greatest impact on

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building design. It also shows the influence of sustainability considerations on choices about aspects such as composition, form, space, tectonics, materials, colour, textures, proportion and position. Specifically designed to offer a new way of understanding architecture, the book: introduces students to the basic principles and methods of sustainable design; features current examples and inspiring case studies to support learning step by step; presents information in a visually appealing, intuitive, easy-to-understand way; includes over 500 high-quality colour diagrams, drawings, sketches and photographs. A clear, visual introduction to creating aesthetically beautiful and sustainable buildings, this is essential reading for students in sustainable architecture courses.

Sustainable Urbanism

Buildings have often been studied whole in space, but never before have they been studied whole in time. *How Buildings Learn* is a masterful new synthesis that proposes that buildings adapt best when constantly refined and reshaped by their occupants, and that architects can mature from being artists of space to becoming artists of time. From the connected farmhouses of New England to I.M. Pei's Media Lab, from "satisficing" to "form follows funding," from the evolution of bungalows to the invention of Santa Fe Style, from Low Road military surplus buildings to a High Road English classic like Chatsworth—this is a far-ranging survey of unexplored essential territory. More than any other human artifacts, buildings

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improve with time—if they're allowed to. How Buildings Learn shows how to work with time rather than against it.

Sustainable Architectural Design

This timely book provides authoritative, comprehensive, and easy-to-follow coverage of the fundamental concepts and practical techniques on the use of process integration to maximize the efficiency and sustainability of industrial processes. Over the past three decades, significant advances have been made in treating, designing, and operating chemical processes as integrated systems. Whether you are a process engineer, an industrial decision maker, or a researcher, this book will be an indispensable resource tool for systematically enhancing process performance and developing novel and sustainable process designs. The book is also ideal for use as a text in an upper level undergraduate or an introductory graduate course on process design and sustainability. This ground breaking reference enhances and reconciles various process and sustainability objectives, such as cost effectiveness, yield improvement, energy efficiency, and pollution prevention. The detailed tools and applications within are written by one of the world's foremost process integration and design experts and will save you time and money. Key features:

- Allows the reader to methodically develop rigorous targets that benchmark the performance of industrial processes then develop cost-effective implementations.
- Contains state-of-the-art process integration approaches and

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applications including graphical, algebraic, and mathematical techniques • Covers applications that include process economics, targeting for conservation of mass and energy, synthesis of innovative processes, retrofitting of existing systems, design and assessment of renewable energy systems, and in-process pollution prevention. • Presents fundamentals and step-by-step procedures that can be applied to the design and optimization of new processes as well the retrofitting and operation of existing processes • Explains how pivotal sustainability issues can holistically and methodically be addressed and reconciled Includes numerous examples and case studies on a broad array of industrial processes and sustainable designs About the author Dr Mahmoud El-Halwagi is a professor and holder of the McFerrin Professorship at the Artie McFerrin Department of Chemical Engineering, Texas A&M University. He is internationally recognized for pioneering contributions in the principles and applications of process integration and sustainable design. Dr El-Halwagi has served as a consultant to a wide variety of processing industries. He is the recipient of prestigious research and educational awards including the American Institute of Chemical Engineers Sustainable Engineering forum (AIChE SEF) Research Excellence Award, the Lockheed Martin Excellence in Engineering Teaching Award, The Fluor Distinguished Teaching Award, and the US National Science Foundation's National Young Investigator Award. - Contains state-of-the-art process integration approaches and applications including graphical, algebraic, and mathematical techniques - Covers applications that include process economics, targeting for conservation

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of mass and energy, synthesis of innovative processes, retrofitting of existing systems, design and assessment of renewable energy systems, and in-process pollution prevention. - Presents fundamentals and step-by-step procedures that can be applied to the design and optimization of new processes as well the retrofitting and operation of existing processes, as well as including numerous examples and case studies for a broad array of industrial systems and processes

Understanding Green Building Materials

Global Sustainable Communities Handbook is a guide for understanding and complying with the various international codes, methods, and legal hurdles surrounding the creation of sustainable communities all over the world. The book provides an introduction to sustainable development, technology and infrastructure outlines, codes, standards, and guidelines written by experts from across the globe. Includes methods for the green use of natural resources in built communities Clearly explains the most cutting edge green technologies Provides a common approach to building green communities Covers green practices from architecture to construction

Sustainable Design

Essential reading for anyone planning to design an eco-home Designing an eco-house is as much about working with your natural surroundings as it is about

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planning to use the right materials for your building. In this book, Christopher Day draws on his extensive experience to explain the key principles of ecological house design. Beautifully illustrated, it highlights how aesthetics arise from eco-responsible design: they are not add-ons, nor are ecology and art in conflict. This book will give you essential guidance in working with your surroundings, understanding what you can do yourself, choosing your materials, making sure your eco home suits your needs, eco-building without relying on technology, and refitting an existing building. This book is essential for anyone who wants to create a beautiful home that is in harmony with its location, is a healthy and pleasant place to live, and is environmentally friendly.

Reconstructing Sustainability Science

The graphic artist's guide to sustainable design
Graphic design is frequently thought of as a purely decorative effort. Yet these efforts can be responsible for shocking impacts on natural resources just to produce a barely-glanced-at catalog or mail piece. *Sustainable Graphic Design: Tools, Systems, and Strategies for Innovative Print Design* helps designers view graphic design as a holistic process. By exploring eco-conscious materials and production techniques, it shows designers how to create more effective and more sustainable designs. *Sustainable Graphic Design* opens your eyes to the bigger picture of design seen from the viewpoints of the audience, the creative vendor, their suppliers, and society as a whole. Chapters are written by a wide range of sustainable

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design pioneers and practitioners—including graphic designers, creative managers, marketing consultants, environmentalists, researchers, and psychologists—giving you critical information on materials and processes. Case studies illustrate and tie concepts together. Sustainability isn't a fad or a movement; it's a long-term paradigm shift. With this forward-looking toolkit, you'll be able to infuse your work with sustainability systems thinking, empowering you to play your role in achieving a future where design and sustainability are natural partners. Contributors Paul Andre Paul J. Beckmann Sharell Benson Arlene Birt Robert Callif Don Carli Jeremy Faludi Terry Gips Fred Haberman Dan Halsey Jessica Jones Curt McNamara John Moes Jacquelyn Ottman Holly Robbins Pamela Smith Dion Zuess Biomimicry Guild Carbonless Promise Chlorine Free Products Association Environmental Paper Network Eureka Recycling Great Printer Environmental Initiative Package Design Magazine Promotional Product Solutions Sustainable Green Printing Partnership Sustainable Packaging Coalition

How Buildings Learn

Written by a renowned sustainability expert, *Greener Products: The Making and Marketing of Sustainable Brands, Second Edition* makes the case for why the people and the planet need products to be made in a different, more sustainable way. The growth of the global middle class, with an additional 3 billion people expected to enter the consumer market by 2030, is putting an unprecedented demand on resources and

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straining the global supply of raw materials, fossil fuels, food and water. This book provides insights on how to raise the bar on product development and investigates the best practices for making and marketing sustainable brands. Over 40 case studies are analyzed in this book and summarized for the reader to easily see what it is that makes leading companies successful. Analysis on marketing campaigns and greener product development range from leading companies like Apple, Nike, Samsung Electronics, BASF, GE, Johnson & Johnson, Unilever, and Method. New updated content in this second edition includes: New developments like the United Nations Sustainable Development Goals with concepts of biomimicry, circular economy, emerging issues management, and eco-innovation. Novel tools and examples for bringing sustainable products to market. New chapter dedicated to natural capital. Analysis of current green marketing methods and market trends. Best practices for making and marketing sustainable brands. For more information, visit the author's book website at www.greenerproducts.biz.

Integral Sustainable Design

This accessible and engaging text is the first to offer a comprehensive critical history and analysis of the greening of architecture through accumulative reduction of negative environmental effects caused by buildings, urban designs and settlements. Describing the progressive development of green architecture from 1960 to 2010, it illustrates how it is ever evolving and ameliorated through alterations in

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form, technology, materials and use and it examines different places worldwide that represent a diversity of cultural and climatic contexts.

Sustainable Design Through Process Integration

"Any architect doing small or medium scaled projects who is also vested in sustainable design but is not yet doing BIM will enjoy this book's overall focus."-Architosh.com This work is the leading guide to architectural design within a building information modeling (BIM) workflow, giving the practitioner a clear procedure when designing climate-load dominated buildings. The book incorporates new information related to BIM, integrated practice, and sustainable design, as well as information on how designers can incorporate the latest technological tools. Each chapter addresses specific topics, such as natural ventilation for cooling, passive solar heating, rainwater harvesting and building hydrology, optimizing material use and reducing construction waste, and collaborating with consultants or other building professionals such as engineers and energy modelers.

Green Building

This book is a guide to a sustainable design process that moves from theory, to site and energy use, to building systems, and finally to evaluation and case studies, so you can integrate design and technology for effective sustainable building. Kuppaswamy

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lyengar shows you how to get it right the first time, use free energy systems, and utilise technologies that minimize fossil fuel use. Each chapter has a sustainable design overview, technical details and strategies marked by clear sections, a summary, and further resources. Heavily illustrated with charts, tables, drawings, photographs, and case studies, the book shows technologies and concepts integrated into cohesive project types, from small and large office spaces to single and multiuse residences, hospitals, schools, restaurants, and warehouses to demonstrate implementing your designs to meet clients' needs now and for the future. Includes an overview of alternate assessment and evaluation systems such as BREEAM, CASBEE, GBTool, Green Globes alongside LEED, ECOTECT, energy 10, HEED and eQuest simulation programs. The guide reveals the importance of the building envelope—walls, superstructure, insulation, windows, floors, roofs, and building materials—on the environmental impact of a building, and has a section on site systems examining site selection, landscape design, thermal impact, and building placement.

Designing for Sustainability

An important consideration for energy-efficient buildings is their primary energy requirements over the entire life cycle. How to determine this? What integrative factors influence the performance of a healthy and sustainable building? This, while it may be important for clients and architects to know, is frequently not very transparent. This book has been

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written to assist with clarifying target criteria and expanding horizons when it comes to ecological buildings. It is meant as a handbook and source of reference for clients, architects, planners and building operators, to provide them with pertinent information about their design, construction and operation: how to do this in the most energy-efficient and economical manner? Also, there is feedback and documentation about prominent buildings like the Hamburg Dockland or the Landesbank Baden-Wuerttemberg in Stuttgart. They provide excellent architectural examples for detailed construction and design solutions. Further, there are insightful interviews with architects and clients about many important buildings, which help turn this book into an integrated source of reference for sustainable architecture. - A Guideline for Planning, Construction and Operation of sustainable Buildings - A source of reference for clients, architects, planners and building operators - Innovative architectural examples with sustainable concepts and design

Plumbing, Electricity, Acoustics

The growing urgency, complexity and "wickedness" of sustainability problems—from climate change and biodiversity loss to ecosystem degradation and persistent poverty and inequality—present fundamental challenges to scientific knowledge production and its use. While there is little doubt that science has a crucial role to play in our ability to pursue sustainability goals, critical questions remain as to how to most effectively organize research and

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connect it to actions that advance social and natural wellbeing. Drawing on interviews with leading sustainability scientists, this book examines how researchers in the emerging, interdisciplinary field of sustainability science are attempting to define sustainability, establish research agendas, and link the knowledge they produce to societal action. Pairing these insights with case studies of innovative sustainability research centres, the book reformulates the sustainability science research agenda and its relationship to decision-making and social action. It repositions the field as a "science of design" that aims to enrich public reasoning and deliberation while also working to generate social and technological innovations for a more sustainable future. This timely book gives students, researchers and practitioners a valuable and unique analysis of the emergence of sustainability science, and both the opportunities and barriers faced by scientific efforts to contribute to social action.

Global Sustainable Communities Handbook

Written for students and practitioners in the fields of architecture and interior design, our new Architecture Brief Sustainable Design provides a concise overview of all the techniques available for reducing the energy footprint of structures and spaces. With clear, simple language and a practical "can-do" approach, author David Bergman covers everything from the profession's ethical responsibility, to design structures and spaces that sustain our natural resources, to

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specific considerations such as rainwater harvesting, graywater recycling, passive heating techniques, solar orientation, green roofs, wind energy, daylighting, indoor air quality, material evaluation and specification, and how to work with green building certification programs.

The Eco-Home Design Guide

"Fundamentals of Integrated Design for Sustainable Building offers an introduction to green building concepts as well as design approaches that reduce and can eventually eliminate the need for fossil fuel use in buildings while also conserving materials, maximizing their efficiency, protecting the indoor air from chemical intrusion, and reducing the introduction of toxic materials into the environment. It represents a necessary road map to the future designers, builders, and planners of a post-carbon world." —from the Foreword by Ed Mazria A rich sourcebook covering the breadth of environmental building, *Fundamentals of Integrated Design for Sustainable Building* introduces the student and practitioner to the history, theory and technology of green building. Using an active learning approach, the concepts of sustainable architecture are explained and reinforced through design problems, research exercises, study questions, team projects, and discussion topics. Chapters by specialists in the green movement round out this survey of all the important issues and developments that students and professionals need to know. From history and philosophy to design technologies and practice, this

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sweeping resource is sure to be referenced until worn out.

Building Reuse

The leading green building reference, updated with the latest advances in the field Sustainable Construction is the leading reference for the design, construction, and operation of high performance green buildings. With broad coverage including architecture, engineering, and construction, this book nevertheless delivers detailed information on all aspects of the green building process, from materials selection to building systems and more. This new fourth edition has been updated to reflect the latest codes and standards, including LEED v4, and includes new coverage of carbon accounting. The discussion has been updated to align with the current thinking on economics, climate change, net zero buildings, and more, with contributions by leaders in the field that illustrate the most recent shifts in thinking and practice. Ancillary materials including an instructor's manual and PowerPoint presentations for each chapter help bring this clear and up-to-date information into the classroom, making this book a valuable reference for working construction professionals. Also, Interactive graphics found throughout the course help activate the content and highlight key concepts for students. Sustainable construction has gone mainstream, and will one day be the industry norm. This book provides a comprehensive reference to all aspects of a project to show you how green building concepts and principles

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apply throughout the design and construction process. Get up to date on the latest green building codes and standards Learn about the newest technology in green building materials Adopt the best practices in procurement and delivery systems Apply sustainability concepts to all aspects of construction and design Green buildings operate at a very high level of efficiency, which is made possible only by careful consideration every step of the way. Appropriate land use, landscaping, construction materials, siting, water use, and more all play a role in a structure's ultimate carbon footprint. Sustainable Construction provides clear guidance for all aspects of green building, including the most recent advances and the latest technology.

Guide to the LEED Green Associate Exam

Written by the chair of the LEED-Neighborhood Development (LEED-ND) initiative, Sustainable Urbanism: Urban Design with Nature is both an urgent call to action and a comprehensive introduction to "sustainable urbanism"--the emerging and growing design reform movement that combines the creation and enhancement of walkable and diverse places with the need to build high-performance infrastructure and buildings. Providing a historic perspective on the standards and regulations that got us to where we are today in terms of urban lifestyle and attempts at reform, Douglas Farr makes a powerful case for sustainable urbanism, showing where we went wrong, and where we need to go. He then explains how to implement sustainable urbanism through leadership

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and communication in cities, communities, and neighborhoods. Essays written by Farr and others delve into such issues as: Increasing sustainability through density. Integrating transportation and land use. Creating sustainable neighborhoods, including housing, car-free areas, locally-owned stores, walkable neighborhoods, and universal accessibility. The health and environmental benefits of linking humans to nature, including walk-to open spaces, neighborhood stormwater systems and waste treatment, and food production. High performance buildings and district energy systems. Enriching the argument are in-depth case studies in sustainable urbanism, from BedZED in London, England and Newington in Sydney, Australia, to New Railroad Square in Santa Rosa, California and Dongtan, Shanghai, China. An epilogue looks to the future of sustainable urbanism over the next 200 years. At once solidly researched and passionately argued, Sustainable Urbanism is the ideal guidebook for urban designers, planners, and architects who are eager to make a positive impact on our--and our descendants'--buildings, cities, and lives.

Sustainability Science

The objective of Sustainable Communities Design Handbook is to ensure a better quality of life for everyone, both now and for generations to come. This means creating a better and safer environment internationally through the sustainable use of natural resources, encouraging sustainable development which supports a strong economy, and ensuring a

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high quality environment that can be enjoyed by all. Sustainable Development Partnerships brings together in one reference today's most cutting edge technologies and methods for creating sustainable communities. With this book, Environmental Engineers, Civil Engineers, Architects, Mechanical Engineers, and Energy Engineers find a common approach to building environmental friendly communities which are energy efficient. The five part treatment starts with a clear and rigorous exposition of sustainable development in practice, followed by self-contained chapters concerning applications. Methods for the sustainable use of natural resources in built communities Clearly explains the most cutting edge sustainable technologies Provides a common approach to building sustainable communities Coverage of sustainable practices from architecture to construction

Handbook of Sustainability Science and Research

"Written for architects, planners, landscape architects, engineers, public officials, and change agent professionals, this important resource defines the issues of sustainable design, illustrates conceptual and case studies, and provides support for continued learning in this increasingly central focus of architects' and urban planners' work."--Jacket.

BIM in Small-Scale Sustainable Design

The Sustainable Design Book updates the reader on

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the latest products and developments in the field of "green" design. Around 300 of the most exciting new products are featured. Q&As with leading designers give insight into trends and key techniques used within the industry, while handy icons highlight each product's sustainability credentials at a glance. Beginning with a chapter on sustainable materials, the book goes on to cover furniture, lighting, home accessories, and personal accessories, giving readers a broad and current understanding of sustainable design from raw elements through to finished products. Web addresses of designers and retailers make each product easy to source. This combination of products, profiles and information will make The Sustainable Design Book an unbeatable resource for those aspiring to best practice within the field of sustainable design, as well as students of contemporary product design. Consumers looking for beautiful but environmentally conscious products and accessories will also find this an essential guide.

Greener Products

Discover sustainable methods for designing crucial building systems for architects. This indispensable companion to Norbert Lechner's landmark volume Heating, Cooling, Lighting: Sustainable Design Methods for Architects, Third Edition completes the author's mission to cover all topics in the field of sustainable environmental control. It provides knowledge appropriate for the level of complexity needed at the schematic design stage and presents the most up-to-date information available in a

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concise, logical, accessible manner and arrangement. Although sustainability deals with many issues, those concerning energy and efficiency are the most critical, making an additional goal of this book one of providing architects with the skills and knowledge needed to create buildings that use electricity and water efficiently. Guidelines and rules-of-thumb are provided to help designers make their buildings use less energy, less water, and less of everything else to achieve their primary objectives. In addition, this book: Addresses ways to reduce electricity usage through more efficient lighting systems and appliances and by incorporating automatic switches and control systems that turn off systems not in use. Covers the design of well-planned effluent treatment systems that protect against potential health hazards while also becoming a valuable source of reclaimed water and fertilizer. Provides coverage of fire protection and conveyance systems, including very efficient types of elevators and escalators and designs that encourage the use of stairs or ramps. Complete with case studies that illustrate how these systems are incorporated into large-project plans, Plumbing, Electricity, Acoustics is an indispensable resource for any architect involved in a sustainable design project.

The Handbook of Design for Sustainability

Filling a gap in existing literature on sustainable design, this new guide introduces and illustrates sustainable design principles through detailed case studies of sustainable buildings in Europe, North

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America and Australia. The guide will provide the reader with a deeper understanding of the design issues involved in delivering sustainable buildings, and giving detailed description of the process of integrating principles into practice. Approximately one hundred case studies of sixty buildings, ranging from small dwellings to large commercial buildings, and drawn from a range of countries, demonstrate best current practice. The sections of the book are divided into design issues relating to sustainable development, including site and ecology, community and culture, health, materials, energy and water. With over 400 illustrations, this highly visual guide will be an invaluable reference to all those concerned with architecture and sustainability issues.

Product Design and Sustainability

This Handbook gives a comprehensive, international and cutting-edge overview of Sustainable Development. It integrates the key imperatives of sustainable development, namely institutional, environmental, social and economic, and calls for greater participation, social cohesion, justice and democracy as well as limited throughput of materials and energy. The nature of sustainable development and the book's theorization of the concept underline the need for interdisciplinarity in the discourse as exemplified in each chapter of this volume. The Handbook employs a critical framework that problematises the concept of sustainable development and the struggle between discursivity and control that has characterised the debate. It

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provides original contributions from international experts coming from a variety of disciplines and regions, including the Global South. Comprehensive in scope, it covers, amongst other areas: Sustainable architecture and design Biodiversity Sustainable business Climate change Conservation Sustainable consumption De-growth Disaster management Eco-system services Education Environmental justice Food and sustainable development Governance Gender Health Indicators for sustainable development Indigenous perspectives Urban transport The Handbook offers researchers and students in the field of sustainable development invaluable insights into a contested concept and the alternative worldviews that it has fostered.

Sustainable Construction

This multidisciplinary handbook explores concrete case studies which illustrate how sustainability science and research can contribute to the realization of the goals of the 2030 Agenda for Sustainable Development. It contains contributions from sustainability researchers from across the world.

Dense + Green Cities

In which ways does a "green building" contribute to the ecology of its surroundings? And how can ecologically designed urban districts, with their green and blue networks, link up with the elements and technologies of building design? All dimensions of "green building" are investigated in this book in an

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effort to understand and evaluate some of the most recent and innovative Dense+Green Cities in Asia, the Americas and Europe.

The Greening of Architecture

Summary: "This book brings together case study examples in the fields of sustainability, sustainable development, and education for sustainable development"--

Designed for the Future

Pixels use electricity, and a lot of it. If the Internet were a country, it would be the sixth largest in terms of electricity use. That's because today's average web page has surpassed two megabytes in size, leading to slow load times, frustrated users, and a lot of wasted energy. With this practical guide, your web design team will learn how to apply sustainability principles for creating speedy, user-friendly, and energy-efficient digital products and services. Author Tim Frick introduces a web design framework that focuses on four key areas where these principles can make a difference: content strategy, performance optimization, design and user experience, and green hosting. You'll discover how to provide users with a streamlined experience, while reducing the environmental impact of your products and services. Learn why 90% of the data that ever existed was created in the last year Use sustainability principles to innovate, reduce waste, and function more efficiently Explore green hosting, sustainable business practices,

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and lean/agile workflows Put the right things in front of users at precisely the moment they need them—and nothing more Increase site search engine visibility, streamline user experience, and make streaming video more efficient Use Action Items to explore concepts outlined in each chapter

Pursuing Sustainability

Sustainability Science: Key Issues is a comprehensive textbook for undergraduates, postgraduates, and participants in executive trainings from any disciplinary background studying the theory and practice of sustainability science. Each chapter takes a critical and reflective stance on a key issue or method of sustainability science. Contributing authors offer perspectives from diverse disciplines, including physics, philosophy of science, agronomy, geography, and the learning sciences. This book equips readers with a better understanding of how one might actively design, engage in, and guide collaborative processes for transforming human-environment-technology interactions, whilst embracing complexity, contingency, uncertainties, and contradictions emerging from diverse values and world views. Each reader of this book will thus have guidance on how to create and/or engage in similar initiatives or courses in their own context. Sustainability Science: Key Issues is the ideal book for students and researchers engaged in problem and project based learning in sustainability science.

The Sustainable Design Book

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This book offers practical and theoretical tools for more effective sustainable design solutions and for communicating sustainable design ideas to today's diverse stakeholders. It uses Integral Theory to make sense of the many competing ideas in this area and offers a powerful conceptual framework for sustainable designers through the four main perspectives of: Behaviours, Systems, Experiences and Cultures. It also uses human developmental theory to reframe sustainable design across four levels of complexity present in society: the Traditional, Modern, Postmodern, and Integral waves. Profuse with illustrations and examples, the book offers many conceptual tools including: - Twelve Principles of Integral Sustainable Design - Sixteen Prospects of Sustainable Design - Six Perceptual Shifts for Ecological Design Thinking - Five Levels of Sustainable Design Aesthetics - Ten Injunctions for Designing Connections to Nature

Strategies for Sustainable Architecture

In *Building Reuse: Sustainability, Preservation, and the Value of Design*, Kathryn Rogers Merlino makes an impassioned case that truly sustainable design requires reusing and reimagining existing buildings. The construction and operation of buildings is responsible for 41 percent of all primary energy use and 48 percent of all carbon emissions. The impact of the demolition and removal of an older building can greatly diminish the advantages of adding green technologies to new construction. Reusing existing buildings can be challenging to accomplish, but

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changing the way we think about environmentally conscious architecture has the potential to significantly reduce carbon emissions. Additionally, Merlino calls for a more expansive view of historic preservation that goes beyond keeping only the most distinctive structures and requiring that they remain fundamentally unchanged to embracing the creative reuse of even unremarkable buildings. In support of these points, *Building Reuse* includes a compelling range of case studies from an eighteen-story office building to a private home all located in the Pacific Northwest, a region with a long history of sustainable design and urban growth policies that have made reuse projects feasible.

Routledge International Handbook of Sustainable Development

Written for students and practitioners in the fields of architecture and interior design, our new *Architecture Brief Sustainable Design* provides a concise overview of all the techniques available for reducing the energy footprint of structures and spaces. With clear, simple language and a practical "can do" approach, author David Bergman covers everything from the profession's ethical responsibility, to design structures and spaces that sustain our natural resources, to specific considerations such as rainwater harvesting, graywater recycling, passive heating techniques, solar orientation, green roofs, wind energy, daylighting, indoor air quality, material evaluation and specification, and how to work with green building certification programs.

Sustainable Design for the Built Environment

Whether it is the effects of climate change, the avalanche of electronic and plastic waste or the substandard living and working conditions of billions of our fellow global citizens, our ability to deal with unsustainability will define the twenty-first century. Given that most consumption is mediated through products and services, the critical question for designers is: How can we radically reshape these into tools for sustainable living? As a guide and reference text, *Product Design and Sustainability* provides design students, practitioners and educators with the breadth and depth needed to integrate the most appropriate sustainable strategies into their practice. It establishes the principles that underpin sustainability and introduces a diverse range of social, economic and environmental design responses and tools available to designers. The numerous real-world examples illustrate how these strategies play out in different product sectors and reinforce the view that sustainability is the most positive opportunity and creative challenge facing designers today. This book: delivers a comprehensive guide to the principles of sustainability and how they apply to product design that can readily be integrated into curricula and design practice reveals many of the issues specific product sectors are facing, and provides the depth and breadth needed for formulating and developing sustainable design strategies to address these issues empowers and inspires designers to engage with sustainability through its many examples and

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insightful interviews with practitioners is fully illustrated with over 300 photographs, graphs and diagrams and supported by chapter summaries, annotated further reading suggestions, and a glossary.

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