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*ASHRAE Handbook Fundamentals 2017 - 2017*

*Analysis and Design of Heating, Ventilating, and Air-Conditioning Systems, Second Edition* - Herbert W. Stanford III 2019-04-01

Analysis and Design of Heating, Ventilating, and Air-Conditioning Systems, Second Edition, provides a thorough and modern overview of HVAC for commercial and industrial buildings, emphasizing energy efficiency. This text combines coverage of heating and air conditioning systems design with detailed information on the latest controls technologies. It also addresses the art of HVAC design along with carefully explained scientific and technical content, reflecting the extensive experience of the authors. Modern HVAC topics are addressed, including sustainability, IAQ, water treatment and risk management, vibration and noise mitigation, and maintainability from a practical point of view.

Transport Phenomena - Robert S. Brodkey 2003-02

Part II covers applications in greater detail. The three transport phenomena--heat, mass, and momentum transfer--are treated in depth

through simultaneous (or parallel) developments.

**Cooling and Heating Load Calculation Manual** - 1980

**Energy Management Handbook** - Wayne C. Turner 2013

**ANSI/ACCA 2 Manual J8AE - 2016 Residential Load Calculation (8th Edition - AE)** - 2016-06

ANSI/ACCA 2 Manual J8AE - 2016 Residential Load Calculation (8th Edition - AE)

**Fitzgerald & Kingsley's Electric Machinery** - Stephen D. Umans 2013-04-01

This seventh edition of Fitzgerald and Kingsley's Electric Machinery by Stephen Umans was developed recognizing the strength of this classic text since its first edition has been the emphasis on building an understanding of the fundamental physical principles underlying the performance of electric machines. Much has changed since the publication of the first edition, yet the basic physical principles remain the same, and this seventh edition is intended to retain the focus on

these principles in the context of today's technology.

**History of Buffalo Presbyterian Church and Her People,**

**Greensboro, N. C** - S M (Samuel Meek) 1864-1939 Rankin 2021-09-09

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

**Analysing Architecture** - Simon Unwin 2020-12-30

Now in its fifth edition, *Analysing Architecture* has become internationally established as the best introduction to architecture. Aimed primarily at those studying architecture, it offers a clear and accessible insight into the workings of this rich and fascinating subject. With copious illustrations from his own notebooks, the author dissects examples from around the world and all periods of history to explain the underlying strategies in architectural design and show how drawing may be used as a medium for analysis. In this new edition *Analysing Architecture* has been revised and expanded. Notably, the chapter on 'How Analysis Can Help Design' has been redeveloped to clearly explain this crucially important aspect of study to a beginner readership. Four new chapters have been added to the section dealing with Themes in Spatial Organisation, on 'Axis', 'Grid', 'Datum Place' and 'Hidden'. Material from the 'Case Studies' in previous editions has been redistributed amongst earlier chapters. The 'Introduction' has been completely rewritten; and the format of the whole book has been adjusted to allow for the inclusion of more and better illustrative

examples. Works of architecture are instruments for managing, orchestrating, modifying our relationship with the world around us. They frame just about everything we do. Architecture is complex, subtle, frustrating... but ultimately extremely rewarding. It can be a difficult discipline to get to grips with; nothing in school quite prepares anyone for the particular demands of an architecture course. But this book will help.

**HEATING, VENTILATING AND AIR CONDITIONING ANALYSIS AND DESIGN, 6TH EDITION** - Mcquiston 2011-08-01

Market\_Desc: Anyone seeking a primer on HVAC; Students of Mechanical Engineering  
Special Features: " The revision of this text continues to offer comprehensive treatment of Heating, Ventilation and Air Conditioning concepts." All material is based on the updated ASHRAE Handbook and Product criteria and uses both SI and English units." Practical realistic problems are presented and the latest procedures and issues are covered." Suitable for advanced study in HVAC Mechanical Engineering, Architectural Engineering, and Mechanical Engineering Technology departments.  
About The Book: Based on the most recent standards from ASHRAE, the sixth edition provides complete and up-to-date coverage of all aspects of heating, ventilation, and air conditioning. You'll find the latest load calculation procedures, indoor air quality procedures, and issues related to ozone depletion. Also integrated throughout the text are numerous worked examples that clearly show you how to apply the concepts in realistic scenarios.

**Turbomachinery Flow Physics and Dynamic Performance** - Meinhard T. Schobeiri 2004-11-12

Over the past three decades turbomachines experienced a steep increase in efficiency and performance. Based on fundamental principles of turbomachinery thermo-fluid mechanics, numerous CFD based calculation methods are being developed to simulate the complex 3-dimensional, highly unsteady turbulent flow within turbine or compressor stages. The objective of this book is to present the fundamental principals of turbomachinery fluid-thermodynamic design process of turbine and compressor components, power generation and

aircraft gas turbines in a unified and compact manner. The book provides senior undergraduate students, graduate students and engineers in the turbomachinery industry with a solid background of turbomachinery flow physics and performance fundamentals that are essential for understanding turbomachinery performance and flow complexes.

**Heat Pumps for Sustainable Heating and Cooling** - Y. H. Venus Lun  
2019-11-13

This book highlights the significance of using sustainable energy to prevent the deterioration of our planet using heat pumps. Energy sustainability can be achieved through improved energy efficiency. In this regard, heat pumps offer an energy-efficient alternative for heating and cooling. To drive the adoption of heat pumps as a key component of sustainable buildings, the authors focus on examining sustainable practices in heat pump operations and innovative system design. In view of the growing desire to use sustainable energy to meet heating and cooling demands and improve indoor air quality, this book offers a valuable reference guide to the available options in HVAC (heating, ventilation, and air-conditioning) system design. To begin with, the authors define sustainable energy and discuss the trend of “thinking green” in building design. They then discuss sustainable practices and heat pump applications in mapping out HVAC systems. In turn, they examine the use of green operations to promote sustainable practices and, in order to highlight the importance of innovative design, discuss the configuration options and precision control aspects. In closing, the authors illustrate innovative sustainable design on the basis of several energy-efficient cases. The book’s main goal is to drive the adoption of sustainable energy solutions. Heat pumps, it argues, represent the most efficient system for meeting commercial/recreational/residential heating and cooling demands. The book not only examines industrial practices in heat pump application, but also discusses advanced heat pump technologies and innovative heat pump designs.

Fundamentals of HVACR - Carter Stanfield 2013

Created with a clear-cut vision of what students need, this groundbreaking text provides comprehensive coverage of heating,

ventilating, air conditioning, and refrigeration. Lauded as a reader-friendly text that delivers fundamental concepts, the most current trends, and practical applications with simple language and skillfully presented concepts, Fundamentals of HVACR, 2nd edition boasts carefully selected artwork and the right amount of detail for today's student. It is supported by a complete suite of student and instructor supplements including the latest in interactive online learning technology, MyHVACLab!

Fluid Power - James A. Sullivan 1982

**HVAC Controls** - Guy W. Gupton 2002

Now in its newly updated third edition, this handbook was written to serve as a complete and concise reference for those engaged in the operation and maintenance of automatic control systems serving building heating, ventilating and air conditioning systems. The full range of topics pertinent to the effective operation of all types of HVAC control systems currently in use today are explored, including equipment-to-control interactions, control system set-up and functions, local loop to building automation system interfaces, performance prediction and assessment, operational parameters, and maintenance and testing. The third edition includes a new chapter covering the installations and procedures required to update an existing pneumatic control system to a hybrid pneumatic and direct digital system by adding DDC signal sensing and control algorithms to existing pneumatic actuators on dampers and valves.

**Cooling and Heating Load Calculation Manual** - Faye C. McQuiston  
1992

Provide a comprehensive source of theory, procedures and data for cooling and heating load calculations for other than residential buildings.

HVAC Systems and Components Handbook - Nils R. Grimm 1998

With this authoritative reference at hand, engineers and technicians will gain full knowledge of each component in today’s complex heating, ventilating, and air conditioning systems. Completely revised and fully updated, this second edition of a widely used working tool offers: Analyses of today’s most efficient, most trouble-free systems ... Details

on today's highly advanced components ... Ways to achieve economy and efficiency in design ... clear explanations of the environmental impact of HVAC design ... Information on meeting key codes and standards. Featuring contributions from the top companies in HVAC technology—York, Allied Signal, Honeywell, and Sverdrup—the Handbook is an ideal source of reliable and timely information and advice on HVAC systems and components.

[A - Airports](#) - British Library 1986-01-01

[E-Commerce 2015, Global Edition](#) - Kenneth C. Laudon 2015-01-23

"E-Commerce 2015" is intended for use in undergraduate and graduate e-commerce courses in any business discipline. "The market-leading text for e-commerce" This comprehensive, market-leading text emphasizes the three major driving forces behind e-commerce—technology change, business development, and social issues—to provide a coherent conceptual framework for understanding the field. Teaching and Learning Experience This program will provide a better teaching and learning experience—for both instructors and students. Comprehensive Coverage Facilitates Understanding of the E-Commerce Field: In-depth coverage of technology change, business development, and social issues gives readers a solid framework for understanding e-commerce. Pedagogical Aids Help Readers See Concepts in Action: Infographics, projects, and real-world case studies help readers see how the topics covered in the book work in practice.

[Refrigeration Systems and Applications](#) - Ibrahim Dincer 2017-05-30

The definitive text/reference for students, researchers and practicing engineers This book provides comprehensive coverage on refrigeration systems and applications, ranging from the fundamental principles of thermodynamics to food cooling applications for a wide range of sectoral utilizations. Energy and exergy analyses as well as performance assessments through energy and exergy efficiencies and energetic and exergetic coefficients of performance are explored, and numerous analysis techniques, models, correlations and procedures are introduced with examples and case studies. There are specific sections allocated to

environmental impact assessment and sustainable development studies. Also featured are discussions of important recent developments in the field, including those stemming from the author's pioneering research. Refrigeration is a uniquely positioned multi-disciplinary field encompassing mechanical, chemical, industrial and food engineering, as well as chemistry. Its wide-ranging applications mean that the industry plays a key role in national and international economies. And it continues to be an area of active research, much of it focusing on making the technology as environmentally friendly and sustainable as possible without compromising cost efficiency and effectiveness. This substantially updated and revised edition of the classic text/reference now features two new chapters devoted to renewable-energy-based integrated refrigeration systems and environmental impact/sustainability assessment. All examples and chapter-end problems have been updated as have conversion factors and the thermophysical properties of an array of materials. Provides a solid foundation in the fundamental principles and the practical applications of refrigeration technologies Examines fundamental aspects of thermodynamics, refrigerants, as well as energy and exergy analyses and energy and exergy based performance assessment criteria and approaches Introduces environmental impact assessment methods and sustainability evaluation of refrigeration systems and applications Covers basic and advanced (and hence integrated) refrigeration cycles and systems, as well as a range of novel applications Discusses crucial industrial, technical and operational problems, as well as new performance improvement techniques and tools for better design and analysis Features clear explanations, numerous chapter-end problems and worked-out examples Refrigeration Systems and Applications, Third Edition is an indispensable working resource for researchers and practitioners in the areas of Refrigeration and Air Conditioning. It is also an ideal textbook for graduate and senior undergraduate students in mechanical, chemical, biochemical, industrial and food engineering disciplines.

**Desiccant Heating, Ventilating, and Air-Conditioning Systems** - Napoleon Enteria 2016-12-27

This book presents the necessary fundamental knowledge in the research, development, design, selection, and application of desiccant heating, ventilating, and air-conditioning systems. It covers the established installations in different climatic conditions and building types. In addition, advanced performance evaluation techniques are presented, covering thermodynamic, economic, and environmental aspects. Hence, the book is an important resource for undergraduate and graduate students, design and installation engineers, researchers and scientists, building owners and occupants, and energy and environmental policy makers.

**Unit Operations in Food Processing** - R. L. Earle 2013-10-22

This long awaited second edition of a popular textbook has a simple and direct approach to the diversity and complexity of food processing. It explains the principles of operations and illustrates them by individual processes. The new edition has been enlarged to include sections on freezing, drying, psychrometry, and a completely new section on mechanical refrigeration. All the units have been converted to SI measure. Each chapter contains unworked examples to help the student gain a grasp of the subject, and although primarily intended for the student food technologist or process engineer, this book will also be useful to technical workers in the food industry

Cooling and Heating Load Calculation Principles - Curtis O. Pedersen 1998

**Refrigeration and Air Conditioning** - Ramesh Chandra Arora 2010-01-30

The text begins by reviewing, in a simple and precise manner, the physical principles of three pillars of Refrigeration and Air Conditioning, namely thermodynamics, heat transfer, and fluid mechanics. Following an overview of the history of refrigeration, subsequent chapters provide exhaustive coverage of the principles, applications and design of several types of refrigeration systems and their associated components such as compressors, condensers, evaporators, and expansion devices.

Refrigerants too, are studied elaboratively in an exclusive chapter. The

second part of the book, beginning with the historical background of air conditioning in Chapter 15, discusses the subject of psychrometrics being at the heart of understanding the design and implementation of air conditioning processes and systems, which are subsequently dealt with in Chapters 16 to 23. It also explains the design practices followed for cooling and heating load calculations. Each chapter contains several worked-out examples that clarify the material discussed and illustrate the use of basic principles in engineering applications. Each chapter also ends with a set of few review questions to serve as revision of the material learned.

*Clean Energy for Sustainable Development* - Abul Kalam Azad 2016-11-12

Clean Energy for Sustainable Development: Comparisons and Contrasts of New Approaches presents information on the fundamental challenge that the energy sector faces with regard to meeting the ever growing demand for sustainable, efficient, and cleaner energy. The book compares recent developments in the field of energy technology, clean and low emission energy, and energy efficiency and environmental sustainability for industry and academia. Rasul, Azad and Sharma, along with their team of expert contributors, provide high-end research findings on relevant industry themes, including clean and sustainable energy sources and technologies, renewable energy technologies and their applications, biomass and biofuels for sustainable environment, energy system and efficiency improvement, solar thermal applications, and the environmental impacts of sustainable energy systems. This book uses global institutes and case studies to explore and analyze technological advancements alongside practical applications. This approach helps readers to develop and affirm a better understanding of the relevant concepts and solutions necessary to achieve clean energy and sustainable development in both medium and large-scale industries. Compares in-depth research on a wide range of clean technologies, from global institutes in Australia, Europe, and India Evaluates the recent developments in clean technologies against the efficiency of tried and tested applications Considers case studies on the advancements of

sustainable energy into industry from around the world

**Load Calculation Applications Manual (I-P Edition)** - Jeffrey D.

Spitler 2014-10-01

"This manual focuses on the calculation of cooling and heating loads for commercial buildings. The heat balance method (HBM) and radiant time series method (RTSM) (as well as how to implement these methods) are discussed. Heat transfer processes and their analysis, psychrometrics, and heating load calculations are also considered"--

Air Conditioning Textbook - Deere & Company 2005-06-30

**Heating, Ventilating, and Air Conditioning** - Faye C. McQuiston

2004-08-06

HEATING, VENTILATING, AND AIR CONDITIONING Completely revised with the latest HVAC design practices! Based on the most recent standards from ASHRAE, this Sixth Edition provides complete and up-to-date coverage of all aspects of heating, ventilation, and air conditioning. You'll find the latest load calculation procedures, indoor air quality procedures, and issues related to ozone depletion. Throughout the text, numerous worked examples clearly show you how to apply the concepts in realistic scenarios. In addition, several computer programs (several new to this edition) help you understand key concepts and allow you to simulate various scenarios, such as psychrometrics and air quality, load calculations, piping system design, duct system design, and cooling coil simulation. Additionally, the load calculation program has been revised and updated. These computer programs are available at the book's website: [www.wiley.com/college/mcquiston](http://www.wiley.com/college/mcquiston) Key Features of the Sixth Edition Additional new worked examples in the text and on the accompanying software. Chapters 6-9 have been extensively revised for clarity and ease of use. Chapter 8, The Cooling Load, now includes two approaches: the heat balance method, as recommended by ASHRAE, and the simpler RTS method. Both approaches include computer applications to aid in calculations. Provides complete, authoritative treatment of all aspects of HVAC, based on current ASHRAE standards. Numerous worked examples and homework problems provide realistic scenarios to

apply concepts.

Building Science for a Cold Climate - N. B. Hutcheon 1983

Aimed at understanding the design and performance of building enclosures and their inside environment in cold climates. The information and examples presented relate mainly to Canada.

Guide to Energy Management - Barney L. Capehart 2008

Topics include distributed generation, energy auditing, rate structures, economic evaluation techniques, lighting efficiency improvement, HVAC optimization, combustion and use of industrial wastes, steam generation and distribution system performance, control systems and computers, energy systems maintenance, renewable energy, and industrial water management."--BOOK JACKET.

**Industrial Refrigeration** - W.F. Stoecker 1995-01-01

**The Building Environment** - Vaughn Bradshaw 2010-09-29

Get the updated guide to active and passive control systems for buildings. To capitalize on today's rapidly evolving, specialized technologies, architects, designers, builders, and contractors work together to plan the mechanical and electrical equipment that controls the indoor environment of a building. The Building Environment: Active and Passive Control Systems, Third Edition helps you take advantage of design innovations and construction strategies that maximize the comfort, safety, and energy efficiency of buildings. From active HVAC systems to passive methods, lighting to on-site power generation, this updated edition explains how to strategically plan for and incorporate effective, efficient systems in today's buildings. It covers the underlying thermal theories and thermodynamic principles and focuses on design that enhances the building environment and minimizes the impact on the world's environment. The Building Environment goes beyond the ABCs of HVAC and covers: On-site power generation, including wind turbines, solar photovoltaic cells, fuel cells, and more. Plumbing systems, fire protection, signal systems, conveying systems, and architectural acoustics. Procedures and/or formulas for performing heat loss, heat gain, and energy use calculations, determining the rate of heat flow,

calculating solar energy utilization, doing load calculations, and more. Details on the latest building codes and standards references. New information on the sustainable design of building systems and energy efficiency, including new technologies. The latest thinking and data on a building's impact on the environment, indoor air quality, and "sick building syndrome." Design economics, including the payback period, life-cycle cost, comparative value analysis, and building commissioning. A practical on-the-job tool for architects, designers, builders, engineers, contractors, and other specialists, this Third Edition is also a great reference for architecture students who will lead tomorrow's design teams.

Dynamics of Structures: Second Edition - J. Humar 2002-01-01

This major textbook provides comprehensive coverage of the analytical tools required to determine the dynamic response of structures. The topics covered include: formulation of the equations of motion for single- as well as multi-degree-of-freedom discrete systems using the principles of both vector mechanics and analytical mechanics; free vibration response; determination of frequencies and mode shapes; forced vibration response to harmonic and general forcing functions; dynamic analysis of continuous systems; and wave propagation analysis. The key assets of the book include comprehensive coverage of both the traditional and state-of-the-art numerical techniques of response analysis, such as the analysis by numerical integration of the equations of motion and analysis through frequency domain. The large number of illustrative examples and exercise problems are of great assistance in improving clarity and enhancing reader comprehension. The text aims to benefit students and engineers in the civil, mechanical and aerospace sectors.

HVAC Equations, Data, and Rules of Thumb, 2nd Ed. - Arthur Bell 2007-09-26

The Latest Information and "Tricks of the Trade" for Achieving First-Rate HVAC Designs on Any Construction Job! HVAC Equations, Data, and Rules of Thumb presents a wealth of state-of-the-art HVAC design information and guidance, ranging from air distribution to piping

systems to plant equipment. This popular reference has now been fully updated to reflect the construction industry's new single body of codes and standards. Featuring an outline format for ease of use, the Second Edition of this all-in-one sourcebook contains: Updated HVAC codes and standards, including the 2006 International Building Code Over 200 equations for everything from ductwork to air-handling systems ASME and ASHRAE code specifications Over 350 rules of thumb for cooling, heating, ventilation, and more New material including: coverage of the new single body of construction codes now used throughout the country Inside This Updated HVAC Design Guide • Definitions • Equations • Rules of Thumb for Cooling, Heating, Infiltration, Ventilation, Humidification, People/Occupancy, Lighting, and Appliance/Equipment • Cooling Load Factors • Heating Load Factors • Design Conditions and Energy Conservation • HVAC System Selection Criteria • Air Distribution Systems • Piping Systems (General, Hydronic, Glycol, Steam, Steam Condensate, AC Condensate, Refrigerant) • Central Plant Equipment (Air-Handling Units, Chillers, Boilers, Cooling Towers, Heat Exchangers) • Auxiliary Equipment (Fans, Pumps, Motors, Controllers, Variable-Frequency Drives, Filters, Insulation, Fire Stopping) • Automatic Controls/Building Automation Systems • Equipment Schedules • Equipment Manufacturers • Building Construction Business Fundamentals • Architectural, Structural, and Electrical Information • Conversion Factors • Properties of Air and Water • Designer's Checklist • Professional Societies and Trade Organizations • References and Design Manuals • Cleanroom Criteria and Standards

Introduction to Food Engineering - R. Paul Singh 2001-06-29

Food engineering is a required class in food science programs, as outlined by the Institute for Food Technologists (IFT). The concepts and applications are also required for professionals in food processing and manufacturing to attain the highest standards of food safety and quality. The third edition of this successful textbook succinctly presents the engineering concepts and unit operations used in food processing, in a unique blend of principles with applications. The authors use their many years of teaching to present food engineering concepts in a logical

progression that covers the standard course curriculum. Each chapter describes the application of a particular principle followed by the quantitative relationships that define the related processes, solved examples, and problems to test understanding. The subjects the authors have selected to illustrate engineering principles demonstrate the relationship of engineering to the chemistry, microbiology, nutrition and processing of foods. Topics incorporate both traditional and contemporary food processing operations.

**Architectural Acoustics** - Madan Mehta 1999

Written by two educators and a practicing acoustical consultant, this reader-friendly book/reference covers all the important issues of architectural acoustics in a single volume --AND features a dual-level presentation that meets the needs of both those seeking depth and rigor, and those requiring a broad, practical perspective. Synthesizing acoustical theory with its practical applications, it provides exhaustivenarrative coverage of the subject (including advanced optional content and extensive mathematical appendixes) and extensivehigh-quality stand-alone illustrations -- for those who need to grasp concepts quickly without wading through long descriptions of complex acoustical phenomena. Explainscomplex acoustical phenomena and their practical details with relative ease. Providesover 500 stand-alone illustrations -- that, together with a cursory reading of the text, enable readers to grasp concepts quickly --without wading through long descriptions of complex acoustical phenomena. Containsa comprehensive list of important formulas in architectural acoustics.

*Warning Miracle* -

*Heat Exchangers* - Sadik Kakaç 2002-03-14

Researchers, practitioners, instructors, and students all welcomed the first edition of Heat Exchangers: Selection, Rating, and Thermal Design for gathering into one place the essence of the information they need-- information formerly scattered throughout the literature. While retaining the basic objectives and popular features of the bestselling fi

*HVAC Controls and Systems* - John I. Levenhagen 1993-01-22

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. This book presents engineers with solutions to the problems found in control applications in the commercial HVAC buildings industry. Using their experience to take readers beyond textbook principles, the authors offer suggestions for troubleshooting not found in any other book. Divided into two sections, HVAC Controls and Systems covers all aspects of commercial controls, including pneumatic, electric, and electronic controls. The first section discusses the hardware of the controls industry: thermostats and humidistats, dampers and damper motors, automatic valves, transmitters, auxiliary devices, construction systems and devices, and electronic products. The second section covers applications of the hardware for air handling unit systems, terminal systems and units, primary systems, heat pump cycles, distribution systems, supervisory systems, maintenance and operations, and total facility approach.

**Building Performance Simulation for Design and Operation** - Jan L.M. Hensen 2012-09-10

Effective building performance simulation can reduce the environmental impact of the built environment, improve indoor quality and productivity, and facilitate future innovation and technological progress in construction. It draws on many disciplines, including physics, mathematics, material science, biophysics and human behavioural, environmental and computational sciences. The discipline itself is continuously evolving and maturing, and improvements in model robustness and fidelity are constantly being made. This has sparked a new agenda focusing on the effectiveness of simulation in building life-cycle processes. Building Performance Simulation for Design and Operation begins with an introduction to the concepts of performance indicators and targets, followed by a discussion on the role of building simulation in performance-based building design and operation. This sets the ground for in-depth discussion of performance prediction for energy demand, indoor environmental quality (including thermal, visual, indoor air quality and moisture phenomena), HVAC and renewable system

performance, urban level modelling, building operational optimization and automation. Produced in cooperation with the International Building Performance Simulation Association (IBPSA), and featuring contributions from fourteen internationally recognised experts in this field, this book provides a unique and comprehensive overview of building performance

simulation for the complete building life-cycle from conception to demolition. It is primarily intended for advanced students in building services engineering, and in architectural, environmental or mechanical engineering; and will be useful for building and systems designers and operators.