

Logistics Systems Engineering

Logistics Engineering and Management Pearson College
Division

Introduction to Logistics Systems Management is the fully revised and enhanced version of the 2004 prize-winning textbook Introduction to Logistics Systems Planning and Control, used in universities around the world. This textbook offers an introduction to the methodological aspects of logistics systems management and is based on the rich experience of the authors in teaching, research and industrial consulting. This new edition puts more emphasis on the organizational context in which logistics systems operate and also covers several new models and techniques that have been developed over the past decade. Each topic is illustrated by a numerical example so that the reader can check his or her understanding of each concept before moving on to the next one. At the end of each chapter, case studies taken from the scientific literature are presented to illustrate the use of quantitative methods for solving complex logistics decision problems. An exhaustive set of exercises is also featured at the end of each chapter. The book targets an academic as well as a practitioner audience, and is appropriate for advanced undergraduate and graduate courses in logistics and supply chain management, and should also serve as a methodological reference for practitioners in consulting as well as in industry.

Logistics Transportation Systems compiles multiple topics on transportation logistics systems from both qualitative and quantitative perspectives, providing detailed examples of real-world logistics workflows. It explores the key concepts and problem-solving techniques required by researchers and logistics professionals to effectively manage the continued

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expansion of logistics transportation systems, which is expected to reach an estimated 25 billion tons in the United States alone by 2045. This book provides an ample understanding of logistics transportation systems, including basic concepts, in-depth modeling analysis, and network analysis for researchers and practitioners. In addition, it covers policy issues related to transportation logistics, such as security, rules and regulations, and emerging issues including reshoring. This book is an ideal guide for academic researchers and both undergraduate and graduate students in transportation modeling, supply chains, planning, and systems. It is also useful to transportation practitioners involved in planning, feasibility studies, consultation and policy for transportation systems, logistics, and infrastructure. Provides real-world examples of logistics systems solutions for multiple transportation modes, including seaports, rail, barge, road, pipelines, and airports Covers a wide range of business aspects, including customer service, cost, and decision analysis Features key-term definitions, concept overviews, discussions, and analytical problem-solving The APCoRISE provides a forum for national and international researchers, engineers, industrial practitioners for discussing a vast range of industrial and system engineering research area, including production systems and logistics, systems engineering, ergonomics, product design and development, industrial management, data engineering, quality systems, operations research, maintenance and reliability

Despite its importance, logistics engineering often lags industry requirements, especially in terms of engineering-based needs. Filling the gap between education and practice, this brief but comprehensive volume covers the most basic material in the field of logistics engineering, making it suitable for those who require an overview of the topic. The book

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discusses logistics from historical and economic perspectives, covers the basic tools required for the study and practice of logistics, and reviews the metrics that can be used to evaluate progress. It then delves into activities that commonly fill the workdays of logisticians. The book closes with an excellent chapter on logistics as an integrating systems function.

This title incorporates SI units along with corresponding U.S. Customary System units. It is valuable for anyone preparing for the Certified Professional Logician exam. It is useful to both the military and commercial sectors

Supply chain management is a well-developed area. The traditional supply chains are dynamic systems which include the forward and reverse flows of physical products and the related information and fund. However, a service supply chain is different because the real "product" may take the form of a "service" which implies that many traditionally cruc

With the rise of global competitiveness among industries, it has become increasingly vital to develop novel strategies to assist in optimizing value-chain networks, thus helping to secure economic success. By employing engineer-to-order practices, many enterprises have improved their manufacturing processes. Supply Chain Strategies and the Engineer-to-Order Approach evaluates innovative processes and original operational models, frameworks, and architectures in the topic areas of industrial engineering and management science. Featuring optimized enterprise chain management strategies and emergent research within the field, this book is an essential reference source for

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professional, academics, and researchers specializing in enterprise operations and engineer-to-order procedures.

An authoritative exploration of logistics management within the engineering design and development process, this book concentrates on the design, sustaining maintenance and support of "systems," The volume provides complete coverage of reliability, maintainability, and availability measures, the measures of logistics and system support, the system engineering process, logistics and supportability analysis, system design and development, the production/construction phase, utilization, sustaining support and retirement phases, and logistics management. For those interested in logistics engineering and management.

Winner of 2013 IIE/Joint Publishers Book-of-the-Year Award Emphasizing a quantitative approach, Supply Chain Engineering: Models and Applications provides state-of-the-art mathematical models, concepts, and solution methods important in the design, control, operation, and management of global supply chains. The text provides an understanding of

Achieving state-of-the-art excellence and attaining the cost reductions associated with outstanding logistics efforts is an obvious gain in terms of competitive edge and profitability. As logistics tools evolve in comprehensiveness and complexity, and

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the use of these new tools becomes more pervasive, maintaining a position of leadership in logistics functions also becomes increasingly difficult. And in spite of its importance not only to the bottom line but also to the functionality of your operations, logistics improvement often lags industry requirements.

Taking a unique engineering approach, the Logistics Engineering Handbook provides comprehensive coverage of traditional methods and contemporary topics. The book delineates basic concepts and practices, provides a tutorial for common problems and solution techniques, and discusses current topics that define the state of the logistics market. It covers background information that defines engineering logistics, activities and implementation, transportation management, enabling technologies, and emerging trends. Each chapter includes either a brief case study overview of an industrially motivated problem or a tutorial using fabricated data designed to highlight important issues. Presentation, organization, and quality of content set this book apart. Its most distinctive feature is the engineering focus, instead of the more usual business/supply chain focus, that provides a mathematically rigorous treatment without being overly analytical. Another important characteristic is the emphasis on transportation management, especially freight transportation. The section on emerging and growing trends makes the handbook particularly useful to the

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savvy logistics professional wishing to exploit possible future trends in logistics practice. The handbook is a one-stop shopping location for logistics engineering reference materials ranging from basics to traditional problems, to state-of-the-market concerns and opportunities.

This handbook begins with the history of Supply Chain (SC) Engineering, it goes on to explain how the SC is connected today, and rounds out with future trends. The overall merit of the book is that it introduces a framework similar to sundial that allows an organization to determine where their company may fall on the SC Technology Scale. The book will describe those who are using more historic technologies, companies that are using current collaboration tools for connecting their SC to other global SCs, and the SCs that are moving more towards cutting edge technologies. This book will be a handbook for practitioners, a teaching resource for academics, and a guide for military contractors. Some figures in the eBook will be in color. Presents a decision model for choosing the best Supply Chain Engineering (SCE) strategies for Service and Manufacturing Operations with respect to Industrial Engineering and Operations Research techniques Offers an economic comparison model for evaluating SCE strategies for manufacturing outsourcing as opposed to keeping operations in-house Demonstrates how to integrate automation

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techniques such as RFID into planning and distribution operations Provides case studies of SC inventory reductions using automation from AIT and RFID research Covers planning and scheduling, as well as transportation and SC theory and problems This book reviews materials handling and industrial logistics from the top down. It translates the management objectives, the strategy and policy level into the application of tools (equipment and systems) required to implement the programs which are necessary to the success of the business. It ties these elements together, defining the relationships between management strategy and engineering solutions, examining decision criteria, and exploring the choices of systems and equipment available to implement plans and policies. In order to achieve higher industrial productivity, commercial performance and efficient distribution, it is essential to view the industrial economic system as an integrated whole. [p] This book provides a combination of technical and management guidance relating to the application and use of materials handling hardware, materials handling systems, and materials management principles. (equipment and systems) required to implement the programs which are necessary to the success of the business. LOGISTICS SYSTEMS ANALYSIS Logistics, the subject of this monograph, is narrowly defined here to be the science that studies how to convey items

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from production to consumption in cost effective ways; some subjects of interest to logistics managers such as reliability and maintenance are not addressed. The theories that are covered, on the other hand, apply to generic items that can represent people, as well as freight; they should be of interest to passenger transportation firms and agencies. Besides transportation, a logistics system usually includes other activities such as inventory control, handling, and sorting, which must be carefully coordinated if cost-effectiveness is to be achieved. Yet, both in theory and practice these activities are often examined separately. The operations research field includes sub-fields with specialized journals in inventory control, transportation, warehousing, etc ... Over the years, these sub-fields have evolved into disciplines that have developed their own specialized conventions and jargon, as a result making it increasingly difficult for researchers to communicate across disciplinary boundaries. Something similar happens in practice when firms become compartmentalized; if responsibilities for different logistical activities are allocated to different managers, decisions in the best interests of the firm are difficult (if not impossible) to make.

Incorporates SI units along with corresponding U.S.

Customary System units Valuable for anyone preparing for the Certified Professional Logistician exam Useful to both the military and commercial sectors

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Apply engineering and design principles to revitalize the healthcare delivery system Healthcare Systems Engineering is the first engineering book to cover this emerging field, offering comprehensive coverage of the healthcare system, healthcare delivery, and healthcare systems modeling. Written by leading industrial engineering authorities and a medical doctor specializing in healthcare delivery systems, this book provides a well-rounded resource for readers of a variety of backgrounds. Examples, case studies, and thoughtful learning activities are used to thoroughly explain the concepts presented, including healthcare systems, delivery, quantification, and design. You'll learn how to approach the healthcare industry as a complex system, and apply relevant design and engineering principles and processes to advance improvements. Written with an eye toward practicality, this book is designed to maximize your understanding and help you quickly apply toward solutions for a variety of healthcare challenges. Healthcare systems engineering is a new and complex interdisciplinary field that has emerged to address the myriad challenges facing the healthcare industry in the wake of reform. This book functions as both an introduction and a reference, giving you the knowledge you need to move toward better healthcare delivery. Understand the healthcare delivery context Use appropriate statistical and quantitative models Improve existing systems and design new ones Apply systems engineering to a variety of healthcare contexts Healthcare systems engineering overlaps with industrial engineering, operations research, and management science, uniting the principles and practices of these fields together in pursuit of optimal healthcare operations. Although collaboration is focused on practitioners, professionals in information technology, policy and administration, public health, and law all play crucial roles in revamping health care systems.

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Healthcare Systems Engineering is a complete and authoritative reference for stakeholders in any field. In a context of global competition, the optimization of logistics systems is inescapable. Logistics Systems: Design and Optimization falls within this perspective and presents twelve chapters that well illustrate the variety and the complexity of logistics activities. Each chapter is written by recognized researchers who have been commissioned to survey a specific topic or emerging area of logistics. The first chapter, by Riopel, Langevin, and Campbell, develops a framework for the entire book. It classifies logistics decisions and highlights the relevant linkages to logistics decisions. The intricacy of these linkages demonstrates how thoroughly the decisions are interrelated and underscores the complexity of managing logistics activities. Each of the chapters focus on quantitative methods for the design and optimization of logistics systems. Fierce competition in today's global market provides a powerful motivation for developing ever more sophisticated logistics systems. This book, written for the logistics manager and researcher, presents a survey of the modern theory and application of logistics. The goal of the book is to present the state-of-the-art in the science of logistics management. As a result, the authors have written a timely and authoritative survey of this field that many practitioners and researchers will find makes an invaluable companion to their work. The proceedings of this international conference on logistics, supply chain and systems engineering will collect the latest worldwide research results on logistics management, logistics information technology, supply chain management, systems engineering methods and other related research fields. It provides an opportunity for academic exchanges and a showcase for the latest scientific achievements, and further promotes multidisciplinary cross-fertilization.

During our lifetime, we have some quite difficult choices that

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challenge our decision-making process. Sometimes we may regret the decision or not even know if we made the right one. And occasionally we put off the decision until we absolutely have to make it or, as it happens, we wait for our circumstances to make the decision for us. Using his years of professional and personal experience, and education in engineering and science, Gerard Ibarra developed an easy-to-use framework that is measurable, repeatable, and reliable. He uses the framework "to make more efficient and effective decisions" for his clients and himself. Now, he wants to share this simple five-step process with you so that, you too, can make the best decisions for yourself.

Logistic engineering is a term presenting the simultaneous evaluation and control of vital activities such as production scheduling, transportation, supply, maintenance, repair and inventory control. The author of this work covers the systematic proactive planning of an organization and describes how to carry out a cost-effective and efficient logistics programme.

Suitable as a reference for industry practitioners and as a textbook for classroom use, *Case Studies in System of Systems, Enterprise Systems, and Complex Systems Engineering* provides a clear understanding of the principles and practice of system of systems engineering (SoSE), enterprise systems engineering (ESE), and complex systems engineering (CSE). Multiple domain practitioners present and analyze case studies from a range of applications that demonstrate underlying principles and best practices of transdisciplinary systems engineering. A number of the case studies focus on addressing real human needs. Diverse approaches such as use of soft systems skills are illustrated, and other

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helpful techniques are also provided. The case studies describe, examine, analyze, and assess applications across a range of domains, including: Engineering management and systems engineering education Information technology business transformation and infrastructure engineering Cooperative framework for and cost management in the construction industry Supply chain modeling and decision analysis in distribution centers and logistics International development assistance in a foreign culture of education Value analysis in generating electrical energy through wind power Systemic risk and reliability assessment in banking Assessing emergencies and reducing errors in hospitals and health care systems Information fusion and operational resilience in disaster response systems Strategy and investment for capability developments in defense acquisition Layered, flexible, and decentralized enterprise architectures in military systems Enterprise transformation of the air traffic management and transport network Supplying you with a better understanding of SoSE, ESE, and CSE concepts and principles, the book highlights best practices and lessons learned as benchmarks that are applicable to other cases. If adopted correctly, the approaches outlined can facilitate significant progress in human affairs. The study of complex systems is still in its infancy, and it is likely to evolve for decades to come. While this book does not provide all the answers, it does establish a platform, through which analysis and knowledge application can take place and conclusions can be made in order to educate the next generation of systems engineers.

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This book presents the research that resulted from a fruitful collaboration between many CNRS research laboratories, health establishments and industrialists. This research contributes to the study and the development of logistical systems, in particular health-oriented logistical systems, in order to manage and optimize physical, informational and financial flows. The authors examine optimization and modeling methods to facilitate decision support for the management of logistics systems in the health field, including solutions to problems encountered in the management of logistics flows and the study of systems incorporating these flows. In the first chapter, logistics engineering is presented whilst the second chapter introduces the study of real cases of transport, management crisis and warehouse management logistics systems. The third chapter is devoted to the study of hospital systems and emergency services and in the fourth chapter, the authors highlight the operational aspect of the hospital system thanks to an innovative modeling approach. Finally, mathematical and algorithmic models of scheduling, and dynamic orchestration of the collaborative workflow by a multi-agent system, are introduced. Presents innovative optimization and modeling methods to provide decision support for the management of logistics systems Provides guidance to healthcare and hospital workers who must control the flow of process issues (i.e. patient information, products, equipment) and the restructuring that results internally in the pooling of resources, especially technical platforms Includes answers to problems encountered in the management of logistics

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flows and the study of systems incorporating these flows
Addresses the challenges of quality and speed in an innovative approach to organizational, economic, technological, and informational optimization

Responding to the demand by researchers and practitioners for a comprehensive reference, Handbook of Industrial and Systems Engineering offers full and easy access to a wide range of industrial and systems engineering tools and techniques in a concise format. Providing state of the art coverage from more than 40 contributing authors, many of whom a

This book examines the requirements, risks, and solutions to improve the security and quality of complex cyber-physical systems (C-CPS), such as production systems, power plants, and airplanes, in order to ascertain whether it is possible to protect engineering organizations against cyber threats and to ensure engineering project quality. The book consists of three parts that logically build upon each other. Part I "Product Engineering of Complex Cyber-Physical Systems" discusses the structure and behavior of engineering organizations producing complex cyber-physical systems, providing insights into processes and engineering activities, and highlighting the requirements and border conditions for secure and high-quality engineering. Part II "Engineering Quality Improvement" addresses quality improvements with a focus on engineering data generation, exchange, aggregation, and use within an engineering organization, and the need for proper data modeling and engineering-result validation. Lastly, Part III "Engineering Security

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Improvement" considers security aspects concerning C-CPS engineering, including engineering organizations' security assessments and engineering data management, security concepts and technologies that may be leveraged to mitigate the manipulation of engineering data, as well as design and run-time aspects of secure complex cyber-physical systems. The book is intended for several target groups: it enables computer scientists to identify research issues related to the development of new methods, architectures, and technologies for improving quality and security in multi-disciplinary engineering, pushing forward the current state of the art. It also allows researchers involved in the engineering of C-CPS to gain a better understanding of the challenges and requirements of multi-disciplinary engineering that will guide them in their future research and development activities. Lastly, it offers practicing engineers and managers with engineering backgrounds insights into the benefits and limitations of applicable methods, architectures, and technologies for selected use cases.

A detailed and thorough reference on the discipline and practice of systems engineering The objective of the International Council on Systems Engineering (INCOSE) Systems Engineering Handbook is to describe key process activities performed by systems engineers and other engineering professionals throughout the life cycle of a system. The book covers a wide range of fundamental system concepts that broaden the thinking of the systems engineering practitioner, such as system thinking, system science, life cycle management,

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specialty engineering, system of systems, and agile and iterative methods. This book also defines the discipline and practice of systems engineering for students and practicing professionals alike, providing an authoritative reference that is acknowledged worldwide. The latest edition of the INCOSE Systems Engineering Handbook: Is consistent with ISO/IEC/IEEE 15288:2015 Systems and software engineering—System life cycle processes and the Guide to the Systems Engineering Body of Knowledge (SEBoK) Has been updated to include the latest concepts of the INCOSE working groups Is the body of knowledge for the INCOSE Certification Process This book is ideal for any engineering professional who has an interest in or needs to apply systems engineering practices. This includes the experienced systems engineer who needs a convenient reference, a product engineer or engineer in another discipline who needs to perform systems engineering, a new systems engineer, or anyone interested in learning more about systems engineering.

System models and model-based engineering methods have the promise of transforming the way that industrial engineers interact with production and logistics systems. Model-based methods play a role in improving communication between stakeholders, interoperability between systems, automated access to consistent analysis models, and multi-disciplinary design methods for complex systems. However, there remains a need for a foundation for modeling these kinds of systems 0?3 a foundation that tailors methods and tools developed in other engineering domains to the unique concepts and

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semantics of production and logistics. This foundation is the topic of this report. This report documents a framework and model libraries for modeling discrete event logistics systems (DELS), an abstraction that covers manufacturing plants, material handling and transportation systems, warehouses, supply chains, etc. The DELS abstraction was created by identifying and modeling commonalities across the kinds of systems that industrial engineers typically encounter, and analysis models they use to analyze those system. It extends well-known product, process, and resource (PPR) ontologies to incorporate a library of operational control model components, and is connected to Commodity Flow Network (CFN), modeling networks, flow networks, and process networks. The relationship between DELS and CFN formally links system models to abstractions used to create analysis models, such as discrete event simulation. This report is the first public release of models and documentation capturing many years of refinement and application by the authors. As a first release, the goal is to solicit additional use cases and feedback from the community to improve the models and make them the foundation for the model-based industrial and systems engineering community.

Supply Chain Engineering considers how modern production and operations management techniques can respond to the pressures of the competitive global marketplace. It presents a comprehensive analysis of concepts and models related to outsourcing, dynamic pricing, inventory management, RFID, and flexible and re-configurable manufacturing systems, as well as real-time

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assignment and scheduling processes. A significant part is also devoted to lean manufacturing, line balancing, facility layout and warehousing techniques. Explanations are based on examples and detailed algorithms while discarding complex and unnecessary theoretical minutiae. All examples have been carefully selected from an industrial application angle. This book is written for students and professors in industrial and systems engineering, management science, operations management and business. It is also an informative reference for managers looking to improve the efficiency and effectiveness of their production systems.

Engineering systems such as an aircraft or frigate are highly complex and specifically designed to meet the customer's requirements. This important book provides the information necessary to acquire and support complex engineering systems expected to last for a long time. Chapters in the first half of the book examine the life cycles of these systems, their design, testing and certification, and the principles behind their acquisition. The second half of the book reviews topics including operations support and logistics, systems maintenance, reliability and upgrades, and performance and risk analysis, ending with a discussion of the need for continuous improvements in these systems. Creates a new operational view of modern acquisition, design, services and support systems Applies enterprise modelling and analysis techniques to develop a whole systems view Takes the systems engineering approach to services system design and support

Introduction to logistics - Reliability, maintainability, and availability measures - The measures of logistics and system support - The system engineering process - Logistics and supportability analysis - Logistics in system design and

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development - Logistics in the production/construction phase
- Logistics in the system utilization, sustaining support, and retirement phases - Logistics management.

Proceedings of China Modern Logistics Engineering covers nearly all areas of logistics engineering technology, focusing on the latest findings and the following theoretical aspects: Logistics Systems and Management Research; Green Logistics and Emergency Logistics; Enterprise Logistics; Material Handling; Warehousing Technology Research; Supply Chain Management; Logistics Equipment; Logistics Packaging Technology; Third-party Logistics, etc. The book will help readers to grasp the relevant aspects of the theory involved, research and development trends, while also offering guidance for their work and related studies. It is intended for researchers, scholars and graduate students in logistics management, logistics engineering, transportation, business administration, E-commerce and industrial engineering.

This book comprises high-quality refereed research papers presented at the 2021 International Conference on Artificial Intelligence and Logistics Engineering (ICAILE2021), held in Kyiv, Ukraine, on 22–24 January 2021, organized jointly by Wuhan University of Technology, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” and the International Research Association of Modern Education and Computer Science. The topics discussed in the book include state-of-the-art papers in artificial intelligence and logistics engineering. It is an excellent source of references for researchers, graduate students, engineers, management practitioners and undergraduate students interested in artificial intelligence and their applications in logistics engineering.

The focus of Supply Chain Engineering is the engineering design and planning of supply chain systems. There exists a

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very large variety of supply chain system types, all with different goals, constraints, and decisions, but a systematic approach for the design and planning of any supply chain can be based on the principles and methods of system engineering. In this book, author Marc Goetschalckx presents material developed at the Georgia Tech Supply Chain and Logistics Institute, the largest supply chain and logistics research and education program in the world. The book can be roughly divided into four sections. The first section focuses on data management. Since most of planning and design requires making decisions today so that supply chain functions can be executed efficiently in the future, this section introduces forecasting principles and techniques. The second section of the book focuses on transportation systems. First, the characteristics of transportation assets and infrastructure are shown. Then four chapters focus on the planning of transportation activities depending on who controls the transportation assets. The third section of the book is focused on storing goods, and the last section of the book is focused on supply chain systems that consider simultaneously procurement, production, and transportation and inventory as well as the design of the supply chain infrastructure or network design. In each chapter, first a model of the process being studied is developed followed by a description of practical solution algorithms. More advanced material is typically described in appendices. This makes it possible to use an integrated, breath-first treatment of supply chain systems by using the initial material in each chapter. A more in depth treatment of a specific topic or process can be found towards the end of each chapter. End-of-chapter exercises are included throughout. This text is suitable for several target audiences. The first target is a course for upper-level undergraduate students on supply chains. The second target is the use in a capstone senior design project in the supply

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chain area. The third target is an introductory course on supply chains either in a master of engineering or a master of business administration program, and the final audience consists of students attending logistics or supply chain post-graduate or continuing education courses.

Engineer and implement sustainable transportation solutions

Featuring in-depth coverage of passenger and freight transportation, this comprehensive resource discusses contemporary transportation systems and options for improving their sustainability. The book addresses vehicle and infrastructure design, economics, environmental concerns, energy security, and alternative energy sources and platforms. Worked-out examples, case studies, illustrations, equations, and end-of-chapter problems are also included in this practical guide.

Sustainable Transportation Systems Engineering covers:

Background on energy security and climate change
Systems analysis tools and techniques

Individual choices and transportation demand
Transportation systems and vehicle design

Physical design of transportation infrastructure
Congestion mitigation in urban passenger transportation

Role of intelligent transportation systems
Public transportation and multimodal solutions

Personal mobility and accessibility
Intercity passenger transportation

Freight transportation function and current trends
Freight modal and supply chain management approaches

Spatial and geographic aspects of freight transportation
Alternative fuels and platforms

Electricity and hydrogen as alternative fuels
Bioenergy resources and systems

Transportation security and planning for extreme weather events

PRAISE FOR SUSTAINABLE TRANSPORTATION SYSTEMS ENGINEERING: "This book addresses one of the great challenges of the 21st century--how to transform our resource-intensive passenger and freight transportation system into a set of low-carbon, economically efficient, and socially

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equitable set of services." -- Dan Sperling, Professor and Director, Institute of Transportation Studies, University of California, Davis, author of Two Billion Cars: Driving toward Sustainability "...provides a rich tool kit for students of sustainable transportation, embracing a systems approach. The authors aptly blend engineering, economics, and environmental impact analysis approaches." -- Susan Shaheen, Professor, Department of Civil and Environmental Engineering, and Co-Director, Transportation Sustainability Research Center, University of California, Berkeley

This book comprises select peer-reviewed contributions from the 6th International Conference on Production and Industrial Engineering (CPIE – 2019). The volume focuses on latest research in the field of Industrial and Systems Engineering, and its allied areas. Articles on variety of topics such as Human Factors Engineering, Lean Manufacturing, Six Sigma, Logistics and Supply Chain Management, Operations Research, Quality Engineering, Measurement and Control, Reliability and Maintenance Engineering, Green Supply Chain Management, Modelling and Simulation, Sustainability, Technology Management, Agile and Flexible Manufacturing, Technology Management and Computer Aided Manufacturing are discussed in this book. Given the range of topics covered, the book will be useful for students, researchers, and professionals interested in different areas of Industrial and Systems Engineering.

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