

Construction Equipment Management

This new textbook fills an important gap in the existing literature, in that it prepares construction engineering and built environment students for their first experience of the jobsite. This innovative book integrates conceptual and hands-on knowledge of project engineering to introduce students to the construction process and familiarize them with the procedures and activities they need to operate as project engineers during their summer internships and immediately after graduation. The textbook is structured into four sections: Section A: Introductory Concepts Section B: Field Engineering Section C: Office Engineering Section D: Advanced Project Engineering The emphasis on field tasks and case studies, questions, and exercises taken from across civil works and commercial building sectors makes this the ideal textbook for introductory to intermediate courses in Construction Engineering, Construction Engineering Technology, Civil and Architectural Engineering, and Construction Management degree programs.

This book guides readers in planning, estimating, and directing construction equipment operations toward achieving the best possible result. Every effort is made to present such advanced management techniques as quantitative management methods, queuing theory, and system simulation in a way that can be easily understood and used by those with little background in higher mathematics or operations research. Coverage features new chapters on compressed air and water systems, lifting equipment, and the production of aggregate, concrete, and asphalt mixes as well as expanded discussions of more traditional topics, including compaction equipment and techniques, construction safety and environmental health, loaders, pavement repair and rehabilitation, quantitative management methods, the rent-lease-buy decision, rock excavation production and cost, roller compacted concrete, the simulation of construction equipment operations, soil stabilization, and trenchers and trenchless technology. For construction and construction equipment managers and engineers.

Construction Equipment and Methods: Planning, Innovation, Safety fosters engineers who are information literate and able to approach complex engineering and managerial problems with confidence and skill. Students of this text will fully appreciate the practical aspects of being a construction engineer and manager, the dual nature—both technical and managerial—of the responsibilities. The text helps build these skills through: a cohesive view of construction technology, its safe use to maximize productivity, and how the principles of science

are being applied; linking the material in this course to their previous courses (such as statics or geotechnical engineering); and pedagogy designed to promote knowledge, and skill acquisition, such as case studies and open-ended problems. Students will be engaged by relevant subject matter, informed by the author's hands-on research in advanced technologies, mechatronics, robotics, ergonomics/safety, etc. The wide variety of pedagogical devices in the text will appeal to all different learning styles, and provide teachers with more opportunities and resources to get students to reflect about what they are learning, to connect the new to their past experiences, and to understand its relevance to their future.

Construction, Equipment and Management ...

Engineering Project Management

Managing Construction Equipment

Construction Planning And Management

Construction Daily Site Log Book

This revised and updated edition of Construction Equipment Management fills a gap on this subject by integrating both conceptual and hands-on quantitative knowledge on construction equipment into a process that facilitates student learning. The first six chapters summarize interdisciplinary concepts that are necessary to ground students' learning on construction equipment management, including both engineering and economics. Each of the next 16 chapters covers a different type of construction equipment and associated methods of use. The final chapter introduces the more advanced concept of operation analysis. This allows the book to be used on numerous courses at different levels to prepare graduates to apply skills on construction equipment when planning for a new project, estimating its costs, and monitoring field operations. Organized around the major categories of construction equipment, including both commercial and heavy civil examples, case studies, and exercises, this textbook will help students develop independence in applying concepts to hands-on scenarios. A companion website provides an instructor manual, solutions, additional examples, lecture slides, figures, and diagrams.

Construction is the country's single largest manufacturing industry. However, it is a sector that lacks benchmarks against which to gauge performance. This modern thinking intends to provide insight to construction productivity improvement. Taking cues from manufacturing sectors such as computer, automobile and chemical companies, this book will apply the lessons learned to building construction. Supported with a range of pedagogical devices, the book will be of equal value to construction managers and civil engineers, and students with different learning methods.

Construction Equipment Management for Engineers, Estimators, and Construction Managers, Second Edition has been extensively rewritten to not only bring it up to date with the state of current practice, but also to serve as a textbook for university courses in construction engineering and management. The authors advanced the previous edition's practical, hands-on approach and added material on the future of construction equipment fleet management, which they believe will require a new technology-based skillset to maximize the cost-effectiveness of construction equipment operations. As such, the book covers the latest construction equipment technologies. Features: Examines emergent technologies in the field, including automated machine guidance systems, intelligent compaction operations, and equipment-related civil integrated management tools. Provides information on how to reduce

an equipment fleet ' s environmental impact, decreasing greenhouse gas emissions through enhanced equipment management and optimization practices. Discusses estimating equipment ownership, operating costs, economic life and optimal replacement timing. Demonstrates how to maximize profit by determining the optimum equipment mix and estimating productivity. Illustrates the use of production-based linear scheduling and stochastic simulations to maximize project cost and schedule certainty. This new edition will serve as an essential textbook for students as well as a valuable reference for a wide range of professionals within the construction, architecture, and engineering industries.

Quality Management in Construction Projects

Construction Equipment Management for Engineers, Estimators, and Owners

Subcontractor Scopes of Work

Fundamental Concepts for Owners, Engineers, Architects, and Builders

Maintenance Management of Heavy Duty Construction Plant and Equipment

Management of Off-highway Plant and Equipment provides a working knowledge of plant management for today's engineers, managers and students, and explains concisely and clearly the factors to be considered during investment in, and management of, construction equipment. It compares the cost of leasing with those of purchase, discusses ways of achieving optimum economic usage of plant, and covers issues of health and safety, licensing and the logistics of maintenance.

The role of the project manager continues to evolve, presenting new challenges to established practitioners and those entering the field for the first time. This second edition of Peter Fewings' groundbreaking textbook has been thoroughly revised to recognise the increasing importance of sustainability and lean construction in the construction industry. It also tackles the significance of design management, changing health and safety regulation, leadership and quality for continuous improvement of the service and the product. Using an integrated project management approach, emphasis is placed on the importance of effectively handling external factors in order to best achieve an on-schedule, on-budget result, as well as good negotiation with clients and skilled team leadership. Its holistic approach provides readers with a thorough guide in how to increase efficiency and communication at all stages while reducing costs, time and risk. Short case studies are used throughout the book to illustrate different tools and techniques. Combining the theories underpinning best practice in construction project management, with a wealth of practical examples, this book is uniquely valuable for practitioners and clients as well as undergraduate and graduate students for construction project management.

Based on the authors' combined experience of seventy years working on projects around the globe, Construction Equipment Management for Engineers, Estimators, and Owners contains hands-on, how-to information that you can put to immediate use. Taking an approach that combines analytical and practical results, this is a valuable reference for a wide range of individuals and organizations within the architecture, engineering, and construction industry. The authors delineate the evolution of construction equipment, setting the stage for specific, up-to-date information on the state-of-the-art in the field. They cover estimating equipment ownership, operating cost, and how to determine economic life and replacement

policy as well as how to schedule a production-driven, equipment-intensive project that achieves target production rates and meets target equipment-related unit costs and profits. The book includes a matrix for the selection of equipment and identifies common pitfalls of project equipment selection and how to avoid them. It describes how to develop an OSHA job safety analysis for an equipment-intensive project, making this sometimes onerous but always essential task easier. The authors' diverse and broad experience makes this a book that ranges from the rigorous mathematical analysis of equipment operations to the pragmatic discussion of the equipment maintenance programs needed to guarantee that the production predicted in a cost estimate occurs.

More Best Practices for Rotating Equipment

An Integrated Approach

Study Notes

Construction Quality Management

Construction Business Management

A single mistake, whether made during the bidding process or when executing a construction project, can potentially cost tens of thousands of dollars or more. Of course, the sooner mistakes are caught, the less costly they become. Based on the authors' combined experience working on projects large and small, Construction Management: Subcontractor Scopes of Work delineates how project teams can avoid mistakes and run projects more intelligently, effectively, and efficiently. This book's concentration on the nuts and bolts of a construction project, rather than on basic philosophies and concepts, sets it apart. It focuses not on the mechanics of writing subcontract scopes of work, but on why they are written the way they are. Designed by contractors for contractors, this is not a book of simple checklists describing how to address various issues, but a compilation of practical examples and lessons learned to form a knowledge base that can be applied to any project. This knowledge can be used to prepare bid documents that clearly define the roles of the various subcontractors, ensuring the full scope of the project is covered without redundancy or duplication.

Provides invaluable training while minimizing lost productivity! Auxiliary multiple choice tests and answer keys are available for download from the CRC website. Using this feature, executives will spend less time preparing and presenting in-house seminars, employees can study when they want and take the tests at opportune times. With this book and downloadable tests, the productivity lost due to training is reduced tremendously. Disagreements over the scope of work required of a general contractor and/or trade subcontractors that ultimately end in construction disputes plague the construction industry. This book elucidates problematic aspects of construction projects while also providing insight into the different perspectives of the various project team members. It delivers helpful information that prevents gaps in subcontract coverage and scope disagreements and reduces potential construction disputes.

Revised edition of: Construction management / Daniel W. Halpin, Bolivar A. Senior. 2011.

This book presents the fundamentals of project management as applied in the built environment and more specifically for the construction industry. It presents the project management body of knowledge (PMBOK) using practical examples to

show how various project management principles and concepts can be applied in practice. Providing study notes for students and aspiring project management professionals in the construction industry, each of the 13 chapters includes a set of comprehensive revision questions that allow readers to reflect on what they have learned. The book offers an introduction to what project management is all about as well as the project life cycles, stakeholders and organizations involved. It explains the project management processes and how these processes are applied in integration, scope, time, cost, quality, human resource, communications, risk and procurement management. It concludes with ethics and professional conduct in the project management profession.

Construction Equipment and Methods: Planning, Innovation, Safety

Modern Machine Shop

Handbook of Construction Equipment Maintenance

**Tools and Maintenance Tasks **

Construction Equipment Management for Engineers, Estimators, and Owners, Second Edition

More Best Practices for Rotating Equipment follows Forsthoffer's multi-volume Rotating Equipment Handbooks, addressing the latest best practices in industrial rotating machinery and also including a comprehensive treatment of the basics for reference. The author's famous troubleshooting approach teaches the reader proven methodologies for installation, operation, and maintenance of equipment, and covers all phases of work with rotating equipment. Reliability optimization is also addressed for the first time. The book is ideal for engineers working in the design, installation, operation, and maintenance of power machinery. It is also an essential source of information for postgraduate students and researchers of mechanical and industrial engineering. Presents 200 new best practices for rotating equipment Offers an easy-to-use reference, with each chapter addressing a different type of equipment Covers all phases of work with rotating equipment, from pre-commissioning through maintenance

The first edition published in 2010. The response was encouraging and many people appreciated a book that was dedicated to quality management in construction projects. Since it published, ISO 9000: 2008 has been revised and ISO 9000: 2015 has published. The new edition will focus on risk-based thinking which must be considered from the beginning and throughout the project life cycle. There are quality-related topics such as Customer Relationship, Supplier Management, Risk Management, Quality Audits, Tools for Construction Projects, and Quality Management that were not covered in the first edition. Furthermore, some figures and tables needed to be updated to make the book more comprehensive.

A desk book for practicing professionals in the management of mobile equipment in construction, mining and forestry.

Building Maintenance & Construction

Construction Equipment Guide

Innovative Bridge Design Handbook

Construction Equipment and Its Planning and Application

Applying the Theory of Constraints

In A Single Volume, This Book Presents A Comprehensive

Account Of The Subject Matter For Construction Planning And Management. Each Chapter Is Preceded By Instructional Objectives In Order To Promote Well-Defined Study.

References To Related Indian Standard Codes Of Practice Are Included. Numerous Questions And Solved Examples Along With Various Illustrations, Graphs And Tables Facilitate Clarity In Understanding The Subject An Immensely Useful Work For Students Of Civil Engineering In Polytechnics And Engineering Colleges.

This book presents IPQMS (Integrated Planning and Quality Management System) as a powerful management methodology. This system ensures cost-effectiveness as well as quality in the constructed project, environmental cleanups, and other sectors - providing an integrative force for essential teamwork in industry and government. This book contains business and engineering case studies, illustrating a principle, issue, or approach in making a decision. Each case study examines the spectrum of a particular project, demonstrating the interrelationships among policy makers, planners, designers, implementers, and managers in creating a project.

Quality management is essential for facilitating the competitiveness of modern day commercial organisations. Excellence in quality management is a requisite for construction organisations who seek to remain competitive and successful. The challenges presented by competitive construction markets and large projects that are dynamic and complex necessitate the adoption and application of quality management approaches. This new edition of Construction Quality Management provides a comprehensive evaluation of quality management systems and tools. Their effectiveness in achieving project objectives is explored, as well as applications in corporate performance enhancement. Both the strategic and operational dimensions of quality assurance are addressed by focusing on providing models of best practice. The reader is supported throughout by concise and clear explanations and with self-assessment questions. Practical case study examples show how various evaluative-based quality management systems and tools have been applied. Subjects covered include: business objectives - the stakeholder satisfaction methodology organisational culture and Health and Safety quality philosophy evaluation of organisational performance continuous quality improvement

and development of a learning organisation. New chapters consider the influence of Building Information Modelling (BIM) on quality management. The text should be of interest to construction industry senior managers, practicing professionals and academics. It is also an essential resource for undergraduate and postgraduate students of construction management, project management and business management courses.

Construction Planning, Equipment, and Methods

Bridge Construction Equipment

Project Management in the Fast Lane

How to Improve Fleet Management & Get the Most from Your Investment

Utilization of Engineer Construction Equipment

This book provides succinct guidance on the management of the maintenance of construction plant, bringing together information which is only currently found dispersed amongst other publications. Topics covered include: costs of maintenance; condition-based monitoring techniques; root cause failure analysis; health and safety; electronic documentation and record keeping; and directions for future research. Where appropriate, standard charts and reports - which can be adapted and used by the reader - are included. Chapters include: introduction to construction plant; the need to maintain construction plant and equipment; the costs of plant ownership; predictive and fixed time to maintenance strategies; condition based predictive maintenance techniques; CBPM: uses oil analysis; proactive maintenance; safety training and plant operators' procedures; record keeping and the application of information; technology.

The book approaches the subject of planning with a new perspective. It focuses on time planning, resources planning and planning of control systems. Alive with numerous examples from projects handled by the author, this book describes how to plan construction projects and execute them efficiently with minimum variation in schedules. The book is divided into four parts: Introduction: It covers nature of construction industry, highlights salient features of construction project management and outlines the approach for planning construction projects; Time Planning: It describes the methodology for breaking down project work into activities, developing workpackage networks, integrating these networks into project network plan and scheduling the network plan for finalising calendar-time oriented construction programs; Resources Planning: It includes methodology for planning manpower, construction materials, plant and machinery, and costs. Planning Control System: It deals with organising control system; methodology for controlling resources productivity, costs and time; codifying planning system and computerising planning and control functions.

"This revised and updated edition of Construction Equipment Management fills a gap on this subject by integrating both conceptual and hands-on quantitative

knowledge on construction equipment into a process that facilitates student learning. The book is divided into three sections: Introductory Concepts Equipment Types Advanced Concepts The introductory section summarizes interdisciplinary concepts that are necessary to ground student's learning on construction equipment management, including both engineering and economics. The second section consist of 16 chapters each covering a different type of construction equipment and associated methods of use. The third section introduces more advanced concepts including operational analysis, economic management and safety and environmental management. This allows the book to be used on numerous courses at different levels to prepare graduates to apply skills on construction equipment when planning for a new project, estimating its costs, and monitoring field operations. Organized around the major categories of construction equipment, including both commercial and heavy civil examples, case studies, and exercises, this textbook will help students develop independence in applying concepts to hands-on scenarios. A companion website provides an instructor manual, solutions, additional examples, lecture slides, figures and diagrams"--

Management

Construction, Rehabilitation and Maintenance

Construction Engineering Design Calculations and Rules of Thumb

Managing Performance in Construction

Construction Site Record Book - Job Site Project Management Report -

Equipment Log Book - Contractor Log Book - Daily Record For Jobsite Project -

Log Subcontractors - Construction Log Book - Maintenance Log Book

Construction Engineering Calculations and Rules of Thumb begins with a brief, but rigorous, introduction to the mathematics behind the equations that is followed by self-contained chapters concerning applications for all aspects of construction engineering. Design examples with step-by-step solutions, along with a generous amount of tables, schematics, and calculations are provided to facilitate more accurate solutions through all phases of a project, from planning, through construction and completion. Includes easy-to-read and understand tables, schematics, and calculations Presents examples with step-by-step calculations in both US and SI metric units Provides users with an illustrated, easy-to-understand approach to equations and calculation methods

"Construction equipment management for engineers, estimators, and construction managers, second edition has been extensively rewritten to not only bring it up to date with the state of current practice, but also to serve as a textbook for university courses in construction engineering and management. The authors advanced the previous edition's practical, hands-on approach and added material on the future of construction equipment fleet management, which they believe will require a new technology-based skillset to maximize the cost-effectiveness of construction equipment operations. As such, the book covers the latest construction equipment technologies. Features: examines emergent technologies in the field, including automated machine guidance systems, intelligent compaction operations, and equipment-related civil integrated management tools. Provides information on how to reduce an equipment fleet's environmental impact, decreasing greenhouse gas emissions through enhanced equipment management and optimization practices. Discusses estimating equipment ownership, operating costs, economic life and optimal replacement timing. Demonstrates how to maximize profit by determining the optimum equipment mix and estimating productivity. Illustrates the use of production-based linear scheduling and stochastic simulations to maximize project cost and schedule certainty. This new edition will serve as an

essential textbook for students as well as a valuable reference for a wide range of professionals within the construction, architecture, and engineering industries"--

Bridge Construction Equipment provides exhaustive coverage of new and emerging bridge construction technology and modern construction methods for all bridge professionals looking to save time, labour and costs, reduce risk, and increase the value and quality of projects through mechanized bridge construction.

Modern Construction Equipment and Methods

Construction Equipment Management

Project Management for the Built Environment

Theory and Practice

Project Management for Construction

This cutting edge, "how to" manual details proven methods for turning around chronically late, overbudget, and underperforming projects. Project Management in the Fast Lane explains how Theory of Constraints tools can be applied to achieve effective, breakthrough solutions in virtually any environment. It includes a complete discussion of the Criti

Construction Site Record Book - Job Site Project Management Report - Equipment Log Book - Contractor Log Book - Daily Record For Jobsite Project - Log Subcontractors - Construction Log Book - maintenance log book

Construction Project Management deals with different facets of construction management emphasizing the basic concepts that any engineering student is supposed to know. The major principles of project management have been derived through real life case studies from the field. Simplified examples have been used to facilitate better understanding of the concepts before going into the large and complex problems. The book features computer applications (Primavera and MS Project) used to explain planning, scheduling, resource leveling, monitoring and reporting; it is highly illustrated with line dia.

Introduction to Construction Project Engineering

Construction Equipment Economics V2

The IPQMS Method and Case Histories

Principles and Practice

Construction Supervisor Daily Log Book

Innovative Bridge Design Handbook: Construction, Rehabilitation, and Maintenance, Second Edition, brings together the essentials of bridge engineering across design, assessment, research and construction. Written by an international group of experts, each chapter is divided into two parts: the first covers design issues, while the second presents current research into the innovative design approaches used across the world. This new edition includes new topics such as foot bridges, new materials in bridge engineering and soil-foundation structure interaction. All chapters have been updated to include the latest concepts in design, construction, and maintenance to reduce project cost, increase structural safety, and maximize durability. Code and standard references have been updated.

Completely revised and updated with the latest in bridge engineering and design Provides detailed design procedures for specific bridges with solved examples Presents structural analysis including numerical methods (FEM), dynamics, risk and reliability, and innovative structural typologies
With the construction boom reaching over \$300 billion by the early 1990s in the United States alone, this comprehensive and accessible guide is more important than ever for the budget-minded contractor. Presenting quick engineering know-how for the performance and satisfactory completion of construction using commonly recognized equipment, it deals with the physical concepts of the work, the surrounding conditions and equipment requirements, with an emphasis on controls governing the equipment's performance.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Construction is a risky business! And unfortunately the reality is that construction company managers often lack the necessary "business management" skills needed to ensure the survival of their firms. This groundbreaking new book is the first of its kind that consolidates critical business management topics, and presents them practically and accessibly by showing how they relate to the management of a construction company.

Construction Management

Construction Project Management

Management of Off-Highway Plant and Equipment