

SAFETY ENGINEERING AND MANAGEMENT IN THE CONSTRUCTION SECTOR

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Preface

Safety is one of the most fundamental requirements of any construction project. As the construction industry continues to expand in scale and complexity, ensuring the safety, health, and well-being of workers has become a critical responsibility for engineers, managers, contractors, and policymakers. Construction activities involve numerous hazards, including work at heights, excavation, heavy machinery operations, electrical installations, material handling, and exposure to occupational health risks. A comprehensive understanding of safety engineering and management principles is therefore essential for minimizing accidents, protecting human life, and achieving sustainable project outcomes.

This book, 'Safety Engineering and Management in the Construction Sector', has been developed to provide students, professionals, and practitioners with a systematic understanding of safety concepts, regulations, management systems, occupational health issues, and best practices relevant to the construction industry. The contents cover fundamental safety philosophy, safety management systems and international guidelines, occupational health hazards, construction and demolition safety, industrial hygiene, environmental compliance, and practical safety applications. Special emphasis has been placed on integrating theoretical concepts with real-world construction practices. The book discusses national and international standards, safety legislation, personal protective equipment, accident prevention strategies, emergency preparedness, and emerging trends in construction safety. Through detailed explanations and practical insights, readers will gain the knowledge necessary to develop a proactive safety culture and contribute to safer construction environments.

We hope that this book will serve as a valuable academic and professional resource for diploma, undergraduate and postgraduate students, faculty members, site engineers, safety officers, project managers, and industry practitioners. Above all, we hope it reinforces the principle that every accident is preventable and that safety must remain a core value in every stage of construction planning and execution.

Mr. Pritam Ghosh

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Dr. Sourav Das

Acknowledgement

The authors express their sincere gratitude to all those who have contributed, directly or indirectly, to the successful completion of this book, 'Safety Engineering and Management in the Construction Sector'.

We are deeply thankful to our academic colleagues, industry professionals, and subject experts whose valuable suggestions, technical insights, and practical experiences helped shape the content of this work. Their guidance ensured that the book addresses both academic requirements and real-world construction safety challenges.

We acknowledge the contributions of researchers, institutions, standards organizations, and regulatory bodies whose published guidelines, codes, and best practices have provided important references for the preparation of this book. Special appreciation is extended to professionals working in the construction sector who continuously strive to improve workplace safety and occupational health standards.

We also thank Learnet Publishing for their support, encouragement, and cooperation throughout the publication process. Their efforts have been instrumental in bringing this work to completion. Finally, we extend our heartfelt gratitude to our families, friends, and well-wishers for their patience, understanding, and constant encouragement throughout the preparation of this manuscript.

We hope this book contributes meaningfully to the advancement of safety awareness, professional practice, and research in the construction industry.

Mr. Pritam Ghosh

Mr. Sumit Kumar Banerjee

Dr. Sourav Das

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