

1. Record Nr.	UNINA9910781746503321
Autore	Ertas Atila <1944, >
Titolo	Engineering mechanics and design applications : transdisciplinary engineering fundamentals // Atila Ertas
Pubbl/distr/stampa	Boca Raton, Fla. : , : CRC Press, , 2012
ISBN	0-429-10667-X 1-283-27457-4 9786613274571 1-4398-4931-5
Descrizione fisica	1 online resource (334 p.)
Classificazione	SCI041000TEC009070TEC063000
Disciplina	531
Soggetti	Engineering design Mechanics, Applied
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Contents; Preface; Acknowledgment; Chapter 1: Prevention through Design: A Transdisciplinary Process; Chapter 2: Static; Chapter 3: Dynamics; Chapter 4: Solid Mechanics; Chapter 5: Failure Theories and Dynamic Loadings; Chapter 6: Design Analysis and Applications; Appendix 1: Tables; Appendix 2: Figures; Back Cover
Sommario/riassunto	In the last decade, the number of complex problems facing engineers has increased, and the technical knowledge required to address and mitigate them continues to evolve rapidly. These problems include not only the design of engineering systems with numerous components and subsystems, but also the design, redesign, and interaction of social, political, managerial, commercial, biological, medical, and other systems. These systems are likely to be dynamic and adaptive in nature. Finding creative solutions to such large-scale, unstructured problems requires activities that cut across traditional disciplinary boundaries. Engineering Mechanics and Design Applications: Transdisciplinary Engineering Fundamentals presents basic engineering mechanics concepts in the context of the engineering design process. It provides non-mechanical engineers with the knowledge needed to understand the mechanical aspects of a project, making it easier to

collaborate in transdisciplinary teams. Combining statics, dynamics, vibrations, and strength of materials in one volume, the book offers a practical reference for engineering design. It begins with an overview of Prevention through Design (PtD), providing a broad understanding of occupational safety and health needs in the design process. It then presents condensed introductions to engineering statics, engineering dynamics, and solid mechanics as well as failure theories and dynamic loadings. Examples of real-life design analysis and applications demonstrate how transdisciplinary engineering knowledge can be applied in practice. A concise introduction to mechanics and design, the book is suitable for nonengineering students who need to understand the fundamentals of engineering mechanics, as well as for engineering students preparing for the Fundamentals of Engineering exam. Professional engineers, researchers, and scientists in non-mechanical engineering disciplines, particularly those collaboratively working on large-scale engineering projects, will also find this a valuable resource. --
