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Nota di contenuto	Kinematics of the point mass -- Kinetics of the point mass -- Theorem of work and theorem of energy for the point mass -- Kinematics and kinetics of systems of point masses -- Motions of rigid bodies -- Impact processes -- Vibrations -- Principles of dynamics -- Relative motions.
Sommario/riassunto	This book follows the classical division of engineering mechanics as it is taught at technical colleges and universities and is dedicated to dynamics, i.e. the consideration of movements of bodies under forces. The aim of this book is to provide students with a clear introduction to dynamics and to enable them to formulate and solve engineering problems independently. The book provides a number of examples for this purpose. This book is aimed at students at technical colleges and universities of mechanical engineering, civil engineering, mechanics and all other degree programmes in which dynamics plays a role. Content Kinematics of the point mass – Kinetics of the point mass –

Theorem of work and theorem of energy for the point mass – Kinematics and kinetics of systems of point masses – Motions of rigid bodies – Impact processes – Vibrations – Principles of dynamics – Relative motions The author Univ.-Prof. Dr.-Ing. habil. Christian Mittelstedt studied civil engineering at the University of Wuppertal, where he graduated in 1999. He was awarded his doctorate in 2005 at the University of Siegen with a dissertation on stress concentration problems in composite laminates. From 2006 he worked in the German aerospace industry as a research engineer and from 2011 as a technical leader and expert in the field of structural analysis. He habilitated in 2012 with a thesis on the stability of thin-walled composite panels in lightweight engineering and is the author and co-author of more than 200 scientific papers that have been published in international journals, conference proceedings and officially recognised calculation manuals. He is the author of numerous textbooks. Since August 2016, he is the head of the institute for Lightweight Engineering and Structural Mechanics department at the Faculty of Mechanical Engineering at the Technical University of Darmstadt, Germany.

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