

<<机械原理>>

图书基本信息

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前言

Mechanisms and Machine Theory is the study of kinematics and dynamics of mechanisms , and the basic principles of machines. It is one of the important fundamental courses for mechanical engineering students. It also serves practical purpose in production , as it involves the first considerations of the designer in machine design.

In order to meet the challenge of economic globalization and technical and scientific revolution , according to the requirement of “ facing modernization , facing the world , facing the future ” , English should be used in some courses in undergraduate education in China. Because of historic reasons , there are significant differences in contents between Chinese textbook and English textbook for the course Mechanisms and Machine Theory. In this field we cannot find a suitable English textbook , which can appropriately cover the whole contents currently taught in China's universities and colleges. Thus to write and compile an English textbook which appropriately covers whole necessary contents and is suitable for Chinese mechanical education is a meaningful work and an urgent task. This book is intended for undergraduate students of most mechanical engineering major and some other relevant majors and contains sufficient material for a full semester 's work. The usual prerequisites are advanced mathematics , kinematics statics , dynamics , and engineering graphics. This textbook is a result of collective effort of many experienced teachers from several universities and colleges. They bring their plentiful experiences from their teaching and practical work in machine design to this textbook , and each is responsible for his own work. They are: Li Can from Wuhan University of Technology (chapter 1) , Xiao Pei from Wuhan University of Technology (chapter 2) , Wang Zhong from Southwest University of Science and Technology (chapter 3) , Li Shuiping from Wuhan University of Technology (chapter 4) , Mao Ya from Wuhan University of Technology (chapter 5) , Li Gangyan from Wuhan University of Technology (chapter 6) , Zhang Tie from South China University of Technology and Zhang Xueliang from Taiyuan Heavy Machinery Institute (chapter 7) , Han Bin from North China Institute of Water Conservancy and Hydroelectric Power (chapter 8) , Zhang Zhihong from Taiyuan Heavy Machinery Institute (chapter 9) , Feng Xuemei from Wuhan University of Technology (chapter 10) , Zhang Xianmin from South China University of Technology (chapter 11) .

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内容概要

According to the basic teaching requirements for the course Mechanisms and Machine Theory, and the requirement of bilingual teaching, this textbook is written for students and teachers of mechanical engineering major in universities and colleges in China. There are 12 chapters in this textbook: Introduction, Structure Analysis of Mechanisms, Kinematic Analysis of Mechanisms, Friction and Efficiency of Mechanisms, Planar Linkage Mechanisms, Cams and Their Design, Gears and Their Design, Gear Trains, The Design of Combined Mechanism and Other Common Mechanisms, Machinery Operation and Adjustment of Velocity Fluctuation in Mechanisms and Balancing. There are some problems and notes at the end of each chapter for students to grasp and practice. This book can be used as textbook for course Mechanisms and Machine Theory, taught as bilingual teaching material, or be used as textbook for course English in Mechanical Engineering, for students of mechanical engineering major in universities and colleges. It can also be used as reference book for teachers, students and engineers of mechanical engineering major and other relevant majors.

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