

# PREFACE

## to the Sixth Edition

The sixth edition is an evolutionary improvement over the fifth and earlier editions. See the updated *Preface to the First Edition* (overleaf) for more detailed information on the book's purpose and organization. The principal changes in this edition are:

- In addition to the printed version of the text, digital e-book versions are also available. These have hotlinks to all the videos and to the downloadable content provided. There are 188 videos. All of these are marked in the print version as well, with their URLs provided, and they can be downloaded by print-book users. A **Video Contents** is provided, and all other downloadable items are listed in the **Downloads Index**.
- Over 50 new problem assignments have been added. The problem figures are included as downloadable PDF files so that students can easily print hard copies on which to work the solutions.
- The author-written programs that come with the book have been completely rewritten to improve their interface and usability, and they are now compatible with the latest operating systems and computers. The programs FOURBAR, FIVEBAR, SIXBAR, SLIDER, and ENGINE have been combined in a new program called LINKAGES that does everything those programs collectively did with new features added. Program DYNACAM also has been completely rewritten and is much improved. Program MATRIX is updated. These computer programs undergo frequent revision to add features and enhancements. Professors who adopt the book for a course and students using the print book may register to download the latest student versions of these programs from: <http://www.designofmachinery.com>. Click on the *Student* or *Professor* link.
- The *Working Model* program that was provided with earlier editions was not a full-featured version of the program. It did not allow the user to save or print a model. The version of *Working Model* available with this text is a fully capable version but is provided only by means of a one-time download from a website and will run for one year from the time of installation. A password is provided with this text to enable its download.
- Many small improvements have been made to the discussion of a variety of topics in many chapters, based largely on user feedback, and all known errors have been corrected.

The extensive DVD content that was introduced in the Fifth Edition is now downloadable from a website. These downloads include:

- The entire *Hrones and Nelson Atlas of Coupler Curves* and the *Zhang et al Atlas of Geared Fivebar Coupler Curves*.
- Wang's *Mechanism Simulation in a Multimedia Environment* contains 105 Working Model (WM) files based on the book's figures with AVI files and 19 Matlab® models for kinematic analysis and animation. The AVI files are linked to their figures in the e-books.
- Videos of two "virtual laboratories" that replicate labs created by the author at WPI are provided. These include demonstrations of the lab machines used and spreadsheet files of the acceleration and force data taken during the experiments. The intent is to allow students at other schools to do these exercises as virtual laboratories.

- A series of 34 *Master Lecture Videos* by the author that cover most of the topics in the book as well as 39 shorter "snippets" from these lectures are woven into the chapters. Seven *Demonstration Videos* are also provided. These were recorded over the author's thirty-one years of teaching these subjects at WPI and are listed in the **Video Contents**.

All the downloadable files are accessible to digital-book users through the publisher's *Connect* website via links in the digital book. Any instructor or student who uses the print book may register on my website, [www.designofmachinery.com](http://www.designofmachinery.com), either as a student or instructor, and I will send them a password to access a protected site where they can download the latest versions of my computer programs, LINKAGES, DYNACAM, and MATRIX, all videos, and all files listed in the Download Index. Note that I personally review each of these requests for access and approve only those that are filled out completely and correctly according to the provided instructions. I require complete information and only accept university email addresses.

**ACKNOWLEDGMENTS** The sources of photographs and other nonoriginal art used in the text are acknowledged in the captions and opposite the title page, but the author would also like to express his thanks for the cooperation of all those individuals and companies who generously made these items available. The author is indebted to, and would like to thank, a number of users who kindly notified him of errors or suggested improvements in all editions since the first. These include: Professors *Chad O'Neal* of Louisiana Tech, *Bram Demeulenaere* of Leuven University, *Eben Cobb* of WPI, *Diego Galuzzi* of University of Buenos Aires, *John R. Hall* of WPI, *Shafik Iskander* of U. Tennessee, *Richard Jakubek* of RPI, *Cheong Gill-Jeong* of Wonkwang University, Korea, *Swami Karunamoorthy* of St. Louis University, *Pierre Larochelle* of Florida Tech, *Scott Openshaw* of Iowa State, *Francis H. Raven* of Notre Dame, *Arnold E. Sikkema* of Dordt College, and *Donald A. Smith* of U. Wyoming.

Professors *M. R. Corley* of Louisiana Tech, *R. Devashier* of U. Evansville, *K. Gupta* of U. Illinois-Chicago, *M. Keefe* of U. Delaware, *J. Steffen* of Valparaiso University, *D. Walcerz* of York College, and *L. Wells* of U. Texas at Tyler provided useful suggestions or corrections. Professors *L. L. Howell* of BYU, and *G. K. Ananthasuresh* of U. Penn supplied photographs of compliant mechanisms. Professor *C. Furlong* of WPI generously supplied MEMS photos and information. Special thanks to *James Cormier* and *David Taranto* of WPI's Academic Technology Center for their help in creating the videos. Reviewers of this edition were: Professors *J. Dave* of University of Cincinnati, *K. Fisher* of Montana State, *S. Gellin* of Buffalo State College, *D. Halsmer* of Oral Roberts University, *L. Howell* of Brigham Young University, *R. A. Lucas* of Lehigh University, *J. Mirth* of U. Wisconsin-Platteville, *C. Rubin* of Vanderbilt University, and *T. J. Thompson* of Cedarville University.

The author would like to express his appreciation to Professor *Sid Wang* of NCAT and his students for their efforts in creating the *Working Model* and *Matlab* files. Professor *Thomas A. Cook*, Mercer University (Emeritus), provided most of the new problem sets as well as their solutions in his impressive and voluminous solutions manual and its accompanying *Mathcad*® solution files. The author is most grateful for Dr. Cook's valuable contributions.

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Mattapoisett, Mass.  
August, 2018

If you find any errors or have comments or suggestions for improvement, please email the author at [norton@wpi.edu](mailto:norton@wpi.edu). Errata as discovered, and other book information, will be posted on the author's web site at <http://www.designofmachinery.com>.