

University of Southampton  
Faculty of Engineering, Science & Mathematics

# Force, Motion & Energy

Martin Counihan  
Second Edition (March 2010)

## Preface

*Force, Motion and Energy* is an introductory-level university course module covering topics in classical mechanics and electromagnetism. It is based on a two-semester module that is provided to students following the Foundation Year in Engineering, Physics & Geophysics in the Faculty of Engineering, Science and Mathematics in the University of Southampton, England. The text is in eight sections, namely:

*The SI System of Units*  
*Elasticity*  
*Vectors, Forces and Static Equilibrium*  
*Kinematics and Newton's Laws of Motion*  
*Work, Power and Energy*  
*Collisions*  
*Rotational Kinematics*  
*Electromagnetism*

*Force, Motion and Energy* has resulted from the work of several people over many years, with editing and additional writing for this edition by Martin Counihan. Later editions of *Force, Motion and Energy* will be provided in the future, and will include additional material (such as problem sheets and sample examination papers) and extended text. Users are therefore advised to acquire the most recent edition available at any time.

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