Students at universities the world over will benefit from the authors’ concise treatment, arising out of lectures given for a graduate and advanced undergraduate course at Penn State University (USA) and University of Technology Delft (NL).

The textbook begins by addressing, in general terms, the phenomena and peculiarities that occur at the nanoscale. In the following five chapters, readers are introduced in detail to nanoscale physics, chemistry, materials science, and biology, followed by chapters on synthesis and fabrication as well as characterization at the nanoscale. In the next four chapters a variety of exemplary applications taken from a wide range of sectors are also presented and discussed. Concerns for safety, environmental impact, workforce development, economic wellbeing, and societal change issues arising from nanotechnology are woven throughout the book and additionally form the focus of the last two chapters.

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