

Scientific Foundations of Engineering

Providing an overview of the foundations of engineering from a fundamental physical perspective, this book reinforces the basic scientific and mathematical principles which underpin a range of engineering disciplines.

It covers the basics of quantum physics as well as some key topics in chemistry, making it a valuable resource for both students and professionals looking to gain a more coherent and interdisciplinary understanding of engineering systems. Throughout, the focus is on common features of physical systems (such as mechanical and electronic resonance), showing how the same underlying principles apply to different disciplines.

Problems are provided at the end of each chapter, including conceptual questions and examples to demonstrate the practical application of fundamental scientific principles. These include real-world examples which are solvable using computational packages such as MATLAB.

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