



# The Engineering Capstone Course: Fundamentals for Students and Instructors

By Harvey F. Hoffman

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## The Engineering Capstone Course: Fundamentals for Students and Instructors By Harvey F. Hoffman

This essential book takes students and instructors through steps undertaken in a start-to-finish engineering project as conceived and presented in the engineering capstone course. The learning experience follows an industry model to prepare students to recognize a need for a product or service, create and work in a team; identify competition, patent overlap, and necessary resources, generate a project proposal that accounts for business issues, prepare a design, develop and fabricate the product or service, develop a test plan to evaluate the product or service, and prepare and deliver a final report and presentation. Throughout the book, students are asked to examine the business viability aspects of the project. The Engineering Capstone Course: Fundamentals for Students and Instructors emphasizes that a design must meet a set of realistic technical specifications and constraints including examination of attendant economics, environmental needs, sustainability, manufacturability, health and safety, governmental regulations, industry standards, and social and political constraints. The book is ideal for instructors teaching, or students working through, the capstone course.

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## **The Engineering Capstone Course: Fundamentals for Students and Instructors** By Harvey F. Hoffman **Bibliography**

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### Editorial Review

#### Review

From the book reviews:

“The author brings his experience to bear in this book to formulate his ‘recipe’ for a very good engineering capstone course. ... this short book provides a useful thoughtful outline about how to proceed in designing a capstone course as well as insights into how to teach and evaluate the students. Summing Up: Recommended. Engineering faculty and professionals.” (A. M. Strauss, Choice, Vol. 52 (6), February, 2015)

#### From the Back Cover

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This book also:

- Identifies the most important competencies and deliverables engineering/project executives expect before embarking on a project
- Challenges students to defend the use of resources and demonstrate the likely return on investment (ROI)
- Focuses on the practicalities of project completion in the environment in which the majority of students will work
- Provides specific outlines for weekly presentations, the proposal report, and the final report
- Simplifies instructors’ class planning with ideas for how to organize, structure, and manage an engineering capstone course
- Describes the likely phases that a team might go through using the well-known Tuckman model
- Enlightens engineering instructors who teach a capstone or senior project course but have not worked in industry

*The Engineering Capstone Course: Fundamentals for Students and Instructors* is ideal for instructors teaching, or students working through, the capstone course.

## About the Author

Professor Harvey Hoffman is a Professor of the Practice of Engineering at Fairfield University.

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