



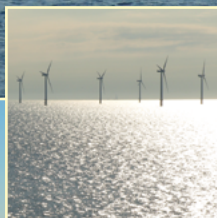
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New Marine & Offshore Engineering Book



# Marine Technology and Operations Theory & Practice

O.T. Gudmestad



*Useful for all practitioners working in marine  
technology and marine operations*

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# Marine Technology and Operations Theory & Practice

## Description

Textbooks on marine technology are most often prepared by academics having a specialist background with a strong research interest in a specific area of marine technology science. This book has been prepared over two decades by a practitioner who has worked with engineering problems for four decades. The possibility to work as engineer and teacher in parallel has influenced the choice of material included in the book.

A marine engineer will need to have a broad background of knowledge within several aspects of marine design and operations. These aspects relate to the design of facilities for offshore applications and evaluation of operational conditions for marine installation and modification/maintenance works. Such needs arise in the marine industries, in the offshore oil and gas industry as well as in the offshore renewable industry.

Developed from knowledge gained throughout the author's engineering career, this book covers several of the themes where engineers need knowledge and also serves as a teaser for those who will go into more depth on the different thematic aspects discussed. Details of qualitative risk analysis, which is considered an excellent tool to identify risks in marine operations, are also included.

The book is the author's attempt to develop a text for those in marine engineering science who like a practical and solid mathematical approach to marine engineering. It is the intention that the book can serve as an introductory textbook for master degree courses in marine sciences and be of inspiration for teachers who will extend the course into specialisation courses on stability of vessels, higher order wave analysis, nonlinear motion of vessels, arctic offshore engineering, etc. The book could also serve as a handbook for PhD students and researchers who need a handy introduction to solving marine technology related problems.

## Contents

- Chapter 1: Hydrodynamics
- Chapter 2: Linear wave theory
- Chapter 3: Tsunami waves
- Chapter 4: Wave loads
- Chapter 5: Principles of structural design
- Chapter 6: Pipeline design
- Chapter 7: Stability of ships and floating vessels
- Chapter 8: Dynamics of one-degree-of-freedom systems
- Chapter 9: Non-harmonic, non-sinusoidal dynamic loading
- Chapter 10: Maritime operations
- Chapter 11: Vessel motions
- Chapter 12: Station keeping
- Chapter 13: Statistical methods in marine technology
- Chapter 14: Description of ocean waves
- Chapter 15: Wave data analysis and extreme waves
- Appendix 1: Applicable software programs
- Appendix 2: Extreme value statistics

## Author Biography

Professor Ove T. Gudmestad holds a MSc Degree in Applied Mathematics from the University of Tromsø (1973) and a PhD in Hydrodynamics from the University of Bergen (1985). He spent two years as a student and visiting scientist at MIT.

Professor Gudmestad has over 20 years of engineering, research and project experience in the international petroleum industry. He has published books and a number of papers and has filed a number of patent applications. He has taught courses and offered seminars on Marine technology, Environmental loads, Offshore pipelines, Offshore field development, Arctic offshore field development, Managing the development of an offshore field installation and Deepwater technology.

## Book Details

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