

Preface

To meet the entropy challenge, is probably more central than the issue of provision of sufficient power to the world. The entropy production, not the energy used, can measure our wastes and the efficiency of work, or the limit of our activity. This book introduces non-equilibrium thermodynamics to engineers, and discusses how the theory can be useful for typical engineering problems.

The book has been written on the basis of many years of teaching at the Norwegian University of Science and Technology, Trondheim, Norway, and the Technical University of Delft, Delft, The Netherlands. Early versions of the book have been used at short courses at the International Center of Thermodynamics, Istanbul, Chalmers Technical University, Gothenburg, Helsinki Technical University and Pennsylvania State University.

It can be used in the Bachelor or Master study programs after a basic course in thermodynamics, or for self study in the industry. The book requires knowledge of basic thermodynamics corresponding to that given by Smith, van Ness and Abbott, Introduction to chemical engineering, or Moran and Shapiro, Fundamentals of Engineering Thermodynamics.

To facilitate learning, exercises for the topics of the book and

solutions to these, are available on the NTNU homepage.¹ Eight DVD lectures are likewise available there or from The Technical University of Delft.²

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The authors welcome comments and suggestions that can improve future editions.

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¹<http://www.chem.ntnu.no/nonequilibrium-thermodynamics/>

²<http://collegerama.tudelft.nl/mediasite/Catalog/?cid=0cbe1b45-06c6-4d03-a692-92a6dad4711d>