
Mathematical Engineering Analysis. *Rufus Oldenburger.* The Macmillan Company, New York. 1950. xiv+426 pp. \$6.00.

Recently there has been an increased emphasis on what has been termed "making engineers scientists." This book is an attempt in this direction. The author is a mathematician who has given serious attention to the applied mathematics required in setting up industrial engineering problems. His central aim is to develop a feeling for the mathematical representation of physical situations. Thus the text is concerned with setting up problems mathematically rather than with the mechanics of their solution.

One very important feature is the attempt to build up an ability to make suitable simplifying assumptions in the solution of engineering problems. In this phase the author gives many side-lights and suggestions based on his own personal experience in order to show what assumptions can be made *safely*.

The book is kaleidoscopic in its range of topics treated. This wide selection of topics plus the fact that methods of solution are not stressed gives an inherent disorganization to the material. In an effort to give some organization to the subject matter it is arranged according to general fields:

- I. Mechanics of Rigid Bodies.
- II. Electricity and Magnetism.
- III. Heat.
- IV. Elasticity.
- V. Fluid Mechanics.

In each section the basic laws are set forth and the subject matter developed from these. A set of problems is given at the end of each section. Answers and hints on solution for all problems are found in the Appendix.

I found the presentation interesting and the book certainly has its value. However, the organization and scope of the material covered would not recommend it as a text, but rather as a reference book. It would be valuable in a seminar for senior engineering students in the mathematical formulation of engineering problems.

Occasionally the author succumbed too much to the engineer's statement of laws and was not as rigorous as one would desire. A typical example is in the formulation of Newton's Second Law of Motion. He speaks only of the "force" causing an acceleration and not the "unbalanced force." This is a subtle difference, to be sure, but often a subtle difference is the difference between success and failure.

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Textbook of Quantitative Inorganic Analysis. *I. M. Kolthoff and E. B. Sandell.* Macmillan Co., New York. Third edition, 1952. xv+759 pp. \$6.50.

Semimicro Qualitative Analysis. *Paul Arthur and Otto M. Smith.* McGraw-Hill Book Co., New York. Third edition, 1952. xi+285 pp. \$4.00

Organic Chemistry. The Chemistry of the Compounds of Carbon. *Lucius J. Desha.* McGraw-Hill Book Co., New York. Second, revised edition, 1952. xvi+595 pp. \$6.50.

Development of the Guided Missile. *Kenneth W. Gatland.* Philosophical Library, Inc., New York. 1952. x+133 pp. \$3.75.

Field Geology. *Frederic H. Lahee.* McGraw-Hill Book Co., New York. Fifth, revised edition, 1952. xxx+883 pp. \$8.50.