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**Townend, M.S.; Pountney, D.C.**

**Learning modelling with DERIVE.**

Prentice Hall, London (ISBN 0-13-190521-X). 257 p. (1995).

This textbook develops undergraduate mathematical modelling skills with the support of the computer algebra package, DERIVE. The role of DERIVE as both a mathematical assistant and an investigate tool is emphasised throughout. After an introductory chapter on the modelling methodology case studies are treated. (Problem formulation, solution and revision stages of modelling). The case studies start with models of a trigonometric or geometric nature (chapter 2). Chapter 3 addresses algebraic models, while Chapter 4 provides the first links with calculus via problems in optimization, relevant linear programming techniques also being presented. Chapter 5 considers the important topic of statistical modelling. Chapters 6 and 7 deal with continuous and discrete models, with due consideration given to a rationale for deciding which approach is appropriate for a given problem. Chapter 8 introduces the concept of dimensional analysis. The final chapter addresses the issue of changes in the mathematical skills base of entrants to higher education. It focuses on reinforcing the understanding of the behaviour of selected mathematical functions and their utility in mathematical modelling. Examples are provided which enable the tutor to develop these links either by exposition or by student-led investigation. Appropriate DERIVE keystrokes, algebraic and graphical screen dumps (obtained using DERIVE Version 2.58) are presented within the solutions develop in the text to provide guidance for the reader.

*Classification:* N85