

Differential Equations: For Scientists and Engineers

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920529799&lokasi=lokal>

Abstrak

This book is designed to serve as a textbook for a course on ordinary differential equations, which is usually a required course in most science and engineering disciplines and follows calculus courses. The book begins with linear algebra, including a number of physical applications, and goes on to discuss first-order differential equations, linear systems of differential equations, higher order differential equations, Laplace transforms, nonlinear systems of differential equations, and numerical methods used in solving differential equations. The style of presentation of the book ensures that the student with a minimum of assistance may apply the theorems and proofs presented. Liberal use of examples and homework problems aids the student in the study of the topics presented and applying them to numerous applications in the real scientific world. This textbook focuses on the actual solution of ordinary differential equations preparing the student to solve ordinary differential equations when exposed to such equations in subsequent courses in engineering or pure science programs. The book can be used as a text in a one-semester core course on differential equations, alternatively it can also be used as a partial or supplementary text in intensive courses that cover multiple topics including differential equations.