

1. Record Nr.	UNINA9910337472803321
Autore	Potter Merle C.
Titolo	Engineering Analysis // by Merle C. Potter
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-319-91683-1
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XIII, 434 p. 144 illus.)
Disciplina	515
Soggetti	Engineering mathematics Statistics Mathematical physics Engineering Mathematics Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences Mathematical Applications in the Physical Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1: Ordinary Differential Equations -- Chapter 2: Power Series Methods -- Chapter 3: Laplace Transforms -- Chapter 4: Matrices and Determinants -- Chapter 5: Vector Analysis -- Chapter 6: Partial Differential Equations -- Chapter 7: Complex Variables -- Chapter 8: Numerical Methods.-Bibliography -- Appendix -- Answers to Selected Problems -- Index.
Sommario/riassunto	The purpose of this book is to introduce undergraduate students of engineering and the physical sciences to applied mathematics often essential to the successful solutions of practical problems. The topics selected are a review of Differential Equations, Laplace Transforms, Matrices and Determinants, Vector Analysis, Partial Differential Equations, Complex Variables, and Numerical Methods. The style of presentation is such that the step-by-step derivations may be followed by the reader with minimum assistance. Liberal use of approximately 160 examples and 1000 homework problems serves to aid students in their study. This book presents mathematical topics using derivations (similar to the technique used in engineering textbooks) rather than

theorems and proofs typically found in textbooks written by mathematicians. Engineering Analysis is uniquely qualified to help apply mathematics to physical applications (spring-mass systems, electrical circuits, conduction, diffusion, etc.), in a manner as efficient and understandable as possible. This book was written to provide for an additional mathematics course after differential equations, to permit several topics to be introduced in one semester, and to make the material comprehensible to undergraduates. The book comes with an Instructor Solutions Manual, available on request, that provides solutions to all problems and also a Student Solutions Manual that provides solutions to select problems (the answers to which are given at the back of the book).
