

This book primarily serves as a historical research monograph on the biographical sketch and career of Leonhard Euler and his major contributions to numerous areas in the mathematical and physical sciences. It contains fourteen chapters describing Euler's works on number theory, algebra, geometry, trigonometry, differential and integral calculus, analysis, infinite series and infinite products, ordinary and elliptic integrals and special functions, ordinary and partial differential equations, calculus of variations, graph theory and topology, mechanics and ballistic research, elasticity and fluid mechanics, physics and astronomy, probability and statistics.

The book is written to provide a definitive impression of Euler's personal and professional life as well as of the range, power, and depth of his unique contributions. This tricentennial tribute commemorates Euler the great man and Euler the universal mathematician of all time. Based on the author's historically motivated method of teaching, special attention is given to demonstrate that Euler's work had served as the basis of research and developments of mathematical and physical sciences for the last 300 years. An attempt is also made to examine his research and its relation to current mathematics and science. Based on a series of Euler's extraordinary contributions, the historical development of many different subjects of mathematical sciences is traced with a linking commentary so that it puts the reader at the forefront of current research.