Brief Introduction to the Book

Structural Analysis is a basic course for undergraduate students with majors in civil engineering, engineering mechanics, flight vehicle design, mechanical engineering, naval architecture, ocean engineering, etc., and is also an introductory course for undergraduates to learn and master the analysis and design of beam, truss, frame, arch and composite structures for buildings, bridges and flight vehicles and so on. This textbook includes eight chapters and covers an introduction, kinematic analysis of plane member systems, analysis of statically determinate structures, the principle of virtual work and deflection calculation, force method, displacement method, influence lines of structures under moving loads, and matrix displacement method.

The present book emphasizes the fundamental theories, concepts, computational methods, and engineering applications of structural analysis. It can be used as a textbook for undergraduates with majors in civil engineering, engineering mechanics, flight vehicle design, mechanical engineering, naval architecture, ocean engineering, etc., and also is a helpful reference for associated engineers and professionals.