# Finite Element Methods: Concepts and Applications in Geomechanics, Second Edition

By Debasis Deb

PHI Learning 0. Softcover. Book Condition: New. 2nd edition. 18 x 24 cm. Computational geomechanics is an emerging field in the disciplines of Mining, Civil and Geotechnical Engineering. Recent advancements in finite element methods (FEMs) have made it possible to solve a variety of complex problems related to geomechanics. This thoroughly revised second edition enhances the knowledge of the finite element methods in design and analysis of structures and excavations made in rock mass. A fine blend of finite element methodology and principles of rock mechanics, the text emphasizes the basics of stress?strain analysis, anisotropic material behaviour, isoparametric finite element method, rock mass yielding/failure behaviour and its formulation in FEM procedure, rock joint behaviour as equivalent material and discrete system. Analytical and numerical formulations of interaction between rock bolts and rock mass are introduced emphasizing parameters which affect bolt performance. Besides senior undergraduate and postgraduate students of Mining, Civil and Geotechnical Engineering, the book would also be useful to practising engineers and researchers who wish to acquaint themselves with the state-of-the-art techniques of finite element methods. NEW TO THIS EDITION : Provides an in-depth analysis of strength and deformability of jointed rock mass. Discusses the application of airy stress function...

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