

1. Record Nr.	UNINA9910797037403321
Autore	Reddy J. N (Junuthula Narasimha), <1945->
Titolo	The finite element method in heat transfer and fluid dynamics // by J. N. Reddy and D.K. Gartling
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, an imprint of Taylor and Francis, , 2010
ISBN	0-429-11142-8 1-4398-8257-6
Edizione	[Third edition.]
Descrizione fisica	1 online resource (515 p.)
Collana	CRC Series in Computational Mechanics and Applied Analysis
Disciplina	620.106
Soggetti	Fluid dynamics - Mathematical models Heat - Transmission - Mathematical models Finite element method
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Front cover; Contents; Preface to the Third Edition; Preface to the Second Edition; Preface to the First Edition; About the Authors; Chapter 1: Equations of Heat Transfer and Fluid Mechanics; Chapter 2: The Finite Element Method; Chapter 3: Conduction Heat Transfer; Chapter 4: Flows of Viscous Incompressible Fluids; Chapter 5: Coupled Fluid Flow and Heat Transfer; Chapter 6: Non-Newtonian Fluids; Chapter 7: Multiphysics Problems; Chapter 8: Parallel Processing; Appendix A: Computer Program FEM2DHT; Appendix B: Solution of Linear Equations; Back cover
Sommario/riassunto	As Computational Fluid Dynamics (CFD) and Computational Heat Transfer (CHT) evolve and become increasingly important in standard engineering design and analysis practice, users require a solid understanding of mechanics and numerical methods to make optimal use of available software. The Finite Element Method in Heat Transfer and Fluid Dynamics, Third Edition illustrates what a user must know to ensure the optimal application of computational procedures—particularly the Finite Element Method (FEM)—to important problems associated with heat conduction, incompressible viscous flows, and convection heat transfer. This book follows the tradition of the bestselling previous editions, noted for their concise explanation and

powerful presentation of useful methodology tailored for use in simulating CFD and CHT. The authors update research developments while retaining the previous editions' key material and popular style in regard to text organization, equation numbering, references, and symbols.
