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Autore	Cattani Eduardo
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Note generali	"Between 14 June and 2 July 2010, the Summer School on Hodge Theory and Related Topics and a related conference were hosted by the ICTP in Trieste, Italy."
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Front matter -- Contributors -- Contents -- Preface -- Chapter One. Introduction to Kähler Manifolds / Cattani, Eduardo -- Chapter Two. From Sheaf Cohomology to the Algebraic de Rham Theorem / El Zein, Fouad / Tu, Loring W. -- Chapter Three. Mixed Hodge Structures / Zein, Fouad El / Tráng, Lê Dng -- Chapter Four. Period Domains and Period Mappings / Carlson, James -- Chapter Five. The Hodge Theory of Maps / Cataldo, Mark Andrea de / Migliorini, Luca -- Chapter Six The Hodge Theory of Maps / Cataldo, Mark Andrea de / Migliorini, Luca -- Chapter Seven. Introduction to Variations of Hodge Structure / Cattani, Eduardo -- Chapter Eight. Variations of Mixed Hodge Structure / Brosnan, Patrick / Zein, Fouad El -- Chapter Nine. Lectures on Algebraic Cycles and Chow Groups / Murre, Jacob -- Chapter Ten. The Spread Philosophy in the Study of Algebraic Cycles / Green, Mark L. -- Chapter Eleven. Notes on Absolute Hodge Classes / Charles, François / Schnell, Christian -- Chapter Twelve. Shimura Varieties: A Hodge-Theoretic Perspective / Kerr, Matt -- Bibliography -- Index
Sommario/riassunto	This book provides a comprehensive and up-to-date introduction to Hodge theory-one of the central and most vibrant areas of contemporary mathematics-from leading specialists on the subject. The topics range from the basic topology of algebraic varieties to the

study of variations of mixed Hodge structure and the Hodge theory of maps. Of particular interest is the study of algebraic cycles, including the Hodge and Bloch-Beilinson Conjectures. Based on lectures delivered at the 2010 Summer School on Hodge Theory at the ICTP in Trieste, Italy, the book is intended for a broad group of students and researchers. The exposition is as accessible as possible and doesn't require a deep background. At the same time, the book presents some topics at the forefront of current research. The book is divided between introductory and advanced lectures. The introductory lectures address Kähler manifolds, variations of Hodge structure, mixed Hodge structures, the Hodge theory of maps, period domains and period mappings, algebraic cycles (up to and including the Bloch-Beilinson conjecture) and Chow groups, sheaf cohomology, and a new treatment of Grothendieck's algebraic de Rham theorem. The advanced lectures address a Hodge-theoretic perspective on Shimura varieties, the spread philosophy in the study of algebraic cycles, absolute Hodge classes (including a new, self-contained proof of Deligne's theorem on absolute Hodge cycles), and variation of mixed Hodge structures. The contributors include Patrick Brosnan, James Carlson, Eduardo Cattani, François Charles, Mark Andrea de Cataldo, Fouad El Zein, Mark L. Green, Phillip A. Griffiths, Matt Kerr, Lê Dng Tráng, Luca Migliorini, Jacob P. Murre, Christian Schnell, and Loring W. Tu.

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