1. Record Nr. UNINA9910254173503321

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Titolo	Introduction to Logic Circuits & Logic Design with VHDL / / by Brock J. LaMeres
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-34195-2
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XVI, 475 p. 485 illus., 427 illus. in color.)
Disciplina	621.395
Soggetti	Electronic circuits Microprocessors Computer architecture Logic design Electronic Circuits and Systems Processor Architectures Logic Design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Analog Vs. Digital -- Number Systems -- Digital Circuitry & Interfacing -- Combinational Logic Design -- VHDL (Part 1) -- MSI Logic -- Sequential Logic Design -- VHDL (Part 2) -- Behavioral Modeling Of Sequential Logic -- Memory -- Programmable Logic -- Arithmetic Circuits -- Computer System Design. .
Sommario/riassunto	This textbook introduces readers to the fundamental hardware used in modern computers. The only pre-requisite is algebra, so it can be taken by college freshman or sophomore students or even used in Advanced Placement courses in high school. This book presents both the classical approach to digital system design (i.e., pen and paper) in addition to the modern hardware description language (HDL) design approach (computer-based). This textbook enables readers to design digital systems using the modern HDL approach while ensuring they have a solid foundation of knowledge of the underlying hardware and theory of their designs. This book is designed to match the way the material is actually taught in the classroom. Topics are presented in a

manner which builds foundational knowledge before moving onto advanced topics. The author has designed the content with learning goals and assessment at its core. Each section addresses a specific learning outcome that the learner should be able to “do” after its completion. The concept checks and exercise problems provide a rich set of assessment tools to measure learner performance on each outcome. This book can be used for either a sequence of two courses consisting of an introduction to logic circuits (Chapters 1-7) followed by logic design (Chapters 8-13) or a single, accelerated course that uses the early chapters as reference material. Written the way the material is taught, enabling a bottom-up approach to learning which culminates with a high-level of learning, with a solid foundation; Emphasizes examples from which students can learn: contains a solved example for nearly every section in the book; Includes more than 600 exercise problems, as well as concept check questions for each section, tied directly to specific learning outcomes.