1. Record Nr. UNINA9910456082603321

Titolo	Risk analysis and uncertainty in flood damage reduction studies [[electronic resource] /] / Committee on Risk-Based Analysis for Flood Damage Reduction, Water Science and Technology Board, Commission on Geosciences, Environment, and Resources, National Research Council
Pubbl/distr/stampa	Washington, D.C. ; ; [Great Britain], : National Academy Press, c2000
ISBN	1-280-18536-8 9786610185368 0-309-56982-6
Descrizione fisica	1 online resource (216 p.)
Disciplina	363.34936
Soggetti	Flood damage prevention - Risk assessment Flood damage prevention - Research Electronic books.
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.
Nota di contenuto	""RISK ANALYSIS AND UNCERTAINTY IN FLOOD DAMAGE REDUCTION STUDIES""; ""Copyright""; ""Preface""; ""Contents""; ""Executive Summary""; ""APPLICATION OF RISK ANALYSIS TECHNIQUES""; ""Risk Measures and Modeling""; ""Economics""; ""CONSISTENT TERMINOLOGY""; ""LEVEE CERTIFICATION""; ""FLOODPLAIN MANAGEMENT""; ""1 The Corps and U.S. Flood Damage Reduction Planning, Policies, and Programs""; ""RISK ANALYSIS APPROACH""; ""THE CORPS'S WATER RESOURCES PROJECT PLANNING PROCEDURES""; ""From Principles and Standards to Principles and Guidelines"" ""U.S. FEDERAL FLOOD PREPAREDNESS, MITIGATION, AND RESPONSE ACTIVITIES""""The a€œGalloway Reporta€?""; ""2 Decision Making and Communication Issues""; ""THE GOAL OF FLOODPLAIN MANAGEMENT""; ""MULTIPLE OBJECTIVES""; ""COMPARING PROJECT ALTERNATIVES""; ""FLOODPLAIN MANAGEMENT ALTERNATIVES""; ""RISK COMMUNICATION""; ""3 Risk Analysis Concepts and Terms""; ""UNCERTAINTY""; ""CONSISTENCY ACROSS PROGRAM AREAS""; ""RISK

ANALYSIS AND DECISION MAKING""; ""4 Risk Analysis Techniques""; ""CORPS FRAMEWORK""; ""NATURAL VARIABILITY AND IMPERFECT KNOWLEDGE""; ""RISK ANALYSIS""; ""MONTE CARLO SIMULATION"" ""ASSESSMENT OF ENGINEERING PERFORMANCE""""""GEOTECHNICAL RELIABILITY""; ""5 Case Studies""; ""BEARGRASS CREEK""; ""Flood Damage Reduction Measures""; ""Damage Reaches""; ""Flood Hydrology""; ""Rainfalla€?Runoff Model""; ""Uncertainty in Flood Discharge""; ""River Hydraulics""; ""Uncertainty in Flood Stage""; ""Economic Analysis""; ""Uncertainty in Flood Damage""; ""Project Planning""; ""Evaluation of Project Alternatives""; ""Risk of Flooding""; ""Effect on Project Economics of Including Risk and Uncertainty"" ""RED RIVER OF THE NORTH AT EAST GRAND FORKS, MINNESOTA, AND GRAND FORKS, NORTH DAKOTA""""""Risk Analysis""; ""Dischargea€? Frequency Relationships""; ""Elevationa€?Discharge Relationships""; ""Risk and Uncertainty Analysis Results""; ""Project Reliability""; ""6 Evaluation and Proposed Improvements""; ""CONCERNS WITH THE RISK ANALYSIS METHODS""; ""ENGINEERING PERFORMANCE""; ""Knowledge Uncertainty""; ""HYDROLOGIC ANALYSIS""; ""Parameter Uncertainty for the LP3 Distribution""; ""Neglecting Skew Uncertainty""; ""Errors in Flood Frequency Curves Derived from Rainfalla€?Runoff Modeling"" ""Errors in the Stage-Discharge Relationship""""""GEOTECHNICAL RELIABILITY""; ""ECONOMIC PERFORMANCE""; ""INTERDEPENDENCE IN RISK ANALYSIS FOR FLOOD DAMAGE ASSESSMENT""; ""CORRELATION LENGTH""; ""SPATIAL AGGREGATION""; ""COMPUTATIONAL ALTERNATIVES TO MINIMIZE CORRELATION EFFECTS""; ""Determine the Scale of Randomization""; ""Introduce Correlation in Monte Carlo Simulation""; ""Randomize Structures Jointly""; ""Randomize Hydrology and Hydraulics for River Reaches""; ""Analyze Statistical Variability in Project Benefits Rather than Damage"" ""Statistically Compare Net Benefits from Alternative Plans""

2. Record Nr. UNINA9910373923603321

Autore	O'Regan Gerard
Titolo	Mathematics in Computing : An Accessible Guide to Historical, Foundational and Application Contexts / / by Gerard O'Regan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-34209-3
Edizione	[2nd ed. 2020.]
Descrizione fisica	1 online resource (XXVI, 458 p. 206 illus., 73 illus. in color.)
Collana	Undergraduate Topics in Computer Science, , 2197-1781
Disciplina	004.0151 511.1
Soggetti	Computer science - Mathematics Machine theory Coding theory Information theory Mathematics History Mathematical Applications in Computer Science Formal Languages and Automata Theory Coding and Information Theory History of Mathematical Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	What is a Computer? -- Foundations of Computing -- Overview of Mathematics in Computing -- Introduction to Algorithms -- Number Theory -- Algebra -- Sequences, Series, and Permutations and Combinations -- Mathematical Induction and Recursion -- Graph Theory -- Cryptography -- Coding Theory -- Language Theory and Semantics -- Computability and Decidability -- Matrix Theory -- A Short History of Logic -- Propositional and Predicate Logic -- Advanced Topics in Logic -- The Nature of Theorem Proving -- Software Engineering Mathematics -- Software Reliability and Dependability -- Overview of Formal Methods -- Z Formal Specification Language -- Automata Theory -- Model Checking -- Probability and Statistics -- Complex Numbers and Quaternions -- Calculus -- Epilogue.

Sommario/riassunto

This illuminating textbook provides a concise review of the core concepts in mathematics essential to computer scientists. Emphasis is placed on the practical computing applications enabled by seemingly abstract mathematical ideas, presented within their historical context. The text spans a broad selection of key topics, ranging from the use of finite field theory to correct code and the role of number theory in cryptography, to the value of graph theory when modelling networks and the importance of formal methods for safety critical systems. Topics and features: Includes numerous pedagogical features, such as chapter-opening key topics, chapter introductions and summaries, review questions, and a glossary Describes the historical contributions of such prominent figures as Leibniz, Babbage, Boole, and von Neumann Introduces the fundamental mathematical concepts of sets, relations and functions, along with the basics of number theory, algebra, algorithms, and matrices Explores arithmetic and geometric sequences and series, mathematical induction and recursion, graph theory, computability and decidability, and automata theory Reviews the core issues of coding theory, language theory, software engineering, and software reliability, as well as formal methods and model checking Covers key topics on logic, from ancient Greek contributions to modern applications in AI, and discusses the nature of mathematical proof and theorem proving Presents a short introduction to probability and statistics, complex numbers and quaternions, and calculus This engaging and easy-to-understand book will appeal to students of computer science wishing for an overview of the mathematics used in computing, and to mathematicians curious about how their subject is applied in the field of computer science. The book will also capture the interest of the motivated general reader.