



Sustainable Design: The Science of Sustainability and Green Engineering

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Wiley, 2008. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Preface.CHAPTER 1. THE EVOLUTION OF DESIGN PROCESS.Process: Linear and Cyclical Design.Building Design Process.Program or Problem Statement.Skeletal Form or Schematic.Systems Development.Technical Detailing and Documentation/Implementation.A Transitional Model.The Synthovation/Regenerative Model.The Necessity for Synthesis-Integrated Innovation in Sustainable Design.Models from Nature of Integrated Systems Design.Principles of Biomimicry.Emerging Tools for Collaboration, Synthesis, and Innovation in Design.Open-Source Software.ThinkCycle.BIM Tools.Integration and Collaboration.Notes and References.CHAPTER 2. FIRST PRINCIPLES.The Cascade of Science.Physics.Thermodynamics.Systems.Motion.Green Mechanics.Environmental Determinate Statics.Applications of Physics in Green Engineering.Mass and Work.Power and Efficiency.More about Forces.Environmental Dynamics.Fluids.Bioenergetics.Systematic Design and the Status Quo.Notes and References.CHAPTER 3. TRANSITIONS.A Brief History.How Clean Is Clean?Donora, Pennsylvania.Love Canal, New York.The Bhopal Incident.Control.Ad Hoc and Post Hoc Life-Cycle Perspectives.Intervention at the Source of Contamination.Intervention at the Point of Release.Intervention as a Contaminant Is Transported in the Environment.Intervention to Control the Exposure.Intervention at the Point of Response.Thermodynamics and Stoichiometry.Applying Thermal Processes for Treatment.Thermal Destruction Systems.Calculating Destruction Removal.Formation of Unintended By-products.Processes Other Than Incineration.Pyrolysis.Emerging Thermal Technologies.Indirect Pollution.Biology Is the Green Engineer's Friend.Pollution Prevention.Notes and References.CHAPTER 4. PLACE AND TIME.Thermodynamics of Time and Space.Soil: The Foundation of Sustainable Sites.Green Architecture and the Sense of Place.Pruitt Igoe: Lessons from the Land Ethic in 21st-Century...



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