



Systems Analysis for Sustainable Engineering: Theory and Applications (Green Manufacturing & Systems Engineering)

By Ni-Bin Chang

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This pioneering work addresses the increased levels of sophistication embedded in many complex large-scale infrastructure systems and their interactions with the natural environment. After a detailed overview of sustainable systems engineering, the book covers mathematical theories of systems analysis, environmental resources management, industrial ecology, and sustainable design. Real-world examples highlight the methodologies presented in this authoritative resource.

COVERAGE INCLUDES:

- Structured systems analysis for sustainable design
- Systems analysis and sustainable management strategies
- Economic valuation, instruments, and project selection
- Statistical forecasting models
- Linear, nonlinear, integer, and dynamic programming models
- Multicriteria decision analyses
- System dynamics models and simulation analyses
- Water resources and quality management
- Air quality management
- Solid waste management
- Soil and groundwater remediation planning
- Industrial ecology and sustainability
- Green building and green infrastructure systems

- Energy resources management and energy systems engineering
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Editorial Review

About the Author

Ni-Bin Chang is a professor in the Department of Civil and Environmental Engineering at the University of Central Florida. He has published more than 250 publications and is a member of the International Association of Environmental Information Sciences.

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