

➤ **Energy Efficiency and Management in Buildings**

**Course outlines**

- ✓ Fundamentals of Energy Management
  - Concepts of Energy Efficiency & Management
  - Energy Units, Calculations, & Benchmarking
  - Engineering Economic Analysis
  - Energy Auditing
  - Energy Performance Models
  - Electricity Tariffs
- ✓ Energy Conservation in Lighting Systems
  - Lighting Fundamentals & Terminology
  - Lighting System Components
  - Lighting Controls
  - Conservation Strategies & Opportunities
  - Maintaining System Performance
- ✓ Energy Conservation in Building Envelope
  - Heat Transfer Mechanisms
  - Heat Transfer in Walls and Roofs
  - Passive Solar Design
  - Cool Roofs
  - Fenestration
  - Window Design Parameters
- ✓ Energy Conservation in HVAC Systems
  - HVAC System Fundamentals
  - HVAC System Types
  - Surveying Existing Conditions
  - Energy Conservation Strategies
  - Thermal Energy Storage
- ✓ Green Buildings & LEED Certification
  - Introduction to sustainability, green building concepts and benefits
  - Green Buildings rating systems
  - LEED certification & credits:
    - Sustainable sites
    - Water efficiency
    - Energy & atmosphere
    - Materials & resources
    - Indoor environmental quality