

FMT405 Energy Efficiency in Buildings

Level: 4

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

Synopsis:

FMT405 Energy Efficiency in Buildings emphasizes on the operational aspects of major building energy systems and it enables the student to recommend innovative energy optimization strategies for optimal operating performance and cost.

Topics:

- Energy Consumption in Buildings
- Active Mechanical Systems - Chillers, Pumps, Fans, Cooling Towers, Heat Recovery Systems
- Motors(e.g. Efficiency versus Loading, Effect of Power Factor, VSD, Economics of Efficient Motor)
- Lift and Escalator
- Day-lighting
- Solar Powered Applications
- Passive Design Strategy
- Site Orientation
- Building Envelope
- Building Energy Modeling
- Thermal Simulation
- Building Management Systems

Textbooks:

Jayamaha, Lal (2007): Energy Efficient building systems: Green Strategies for operation and maintenance McGraw-Hill
ISBN-13: 9780071482820-AA

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Learning Outcome:

- Examine the operational aspects of major building energy systems
- Recommend energy optimization strategies for optimal operating performance and cost
- Appraise major building energy systems in buildings
- Analyze energy efficiency in buildings
- Propose building energy systems in buildings
- Support innovative energy efficient building systems for buildings

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
LAB REPORT	10
TUTOR-MARKED ASSIGNMENT	20
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**