

# FMT502 Low Energy and Energy Efficient Buildings

**Level:** 5

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY JAN

## Synopsis:

This course emphasizes on building energy systems and it provides an insight into innovative energy optimization strategies such as renewable energy systems and passive design for optimal operating performance and cost. The course will also discuss energy consumption patterns in buildings, and how building energy modelling, thermal insulation and building management systems can be used to manage energy efficiency in buildings.

## Topics:

- Energy Consumption in Buildings – Patterns and Trends
- Steps towards a performing building
- Integrated Design Process
- Understanding tropical climate & climate response design
- Passive Design Strategies
- Active energy systems
- Renewable energy sources
- Intelligent building management system
- Energy Simulation and Modeling
- Super Low Energy Buildings
- Energy Audit Report
- Case Studies

## Learning Outcome:

- Examine the operational aspects of major building energy systems
- Evaluate energy optimization strategies for optimal operating performance and cost
- Appraise major building energy systems in buildings
- Relate the principle and operation of intelligent Building Management System
- Assess energy efficiency in buildings
- Assess building energy systems in buildings
- Support innovative energy efficient building systems for buildings
- Evaluate passive design strategies used in buildings

## Assessment Strategies - Regular Semester (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	QUIZ 1	10
	TUTOR-MARKED ASSIGNMENT 1	20

Overall Continuous Assessment	GROUP BASED ASSIGNMENT 1	20
Overall Examinable Components	Written Exam	50
<b>Total</b>		<b>100</b>

\*The information listed is subject to review and change.