

FMT315 Sustainable Buildings

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

Synopsis:

FMT315 Sustainable Building will provide students an overview on the principles of sustainability and green building assessment methodologies for new and existing buildings. The course will explore the regulatory framework and the underlying performance standards for sustainable buildings adopted by both locally and internationally. Students will be taught how to evaluate a building's sustainability using the Singapore Green Mark Standards. The course will also provide insights into the principles and features of green technologies that a building can adopt to operate sustainably.

Topics:

- The Triple Bottom-line
- Business case for Sustainable Buildings
- Regulatory Framework for Environmental Sustainability of Buildings
- Understanding the Singapore Code of Environmental Sustainability for New and Existing Buildings
- Singapore Green Building Initiatives
- Singapore Green Mark Standards for New and Existing buildings
- Singapore Green Mark Standards for Offices
- Green Building Standards (e.g. LEED (US), BREEAM(UK) CASBEE(Japan) and Green Star (Australia))
- Principles of Green Building Technologies (e.g. Solar Water Heating, Photovoltaic Systems, Wind Turbine System, Co-Gen and Trigen Systems)
- Benefits and Limitation for the Adoption of Green Building Technologies in Sustainable Buildings
- Sustainable Retrofitting
- Maintenance Requirements for Green Building Technologies

Learning Outcome:

- At the end of the course, students should be able to:
- A. Knowledge and Understanding (Theory Component)
 - 1. Demonstrate basic understanding of the legislative requirements on Environmental Sustainability for buildings both locally and internationally
 - 2. Compare between the different Green Building assessment standards
 - 3. Evaluate the various green building solutions
- B. Key Skills (Practical Component)
 - 1. Compute the Singapore Green Mark Standards scores for new and existing buildings
 - 2. Appraise the benefits and limitations of a sustainable building
 - 3. Discuss the principles and features of green building technologies adopted in sustainable buildings

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-CLASS QUIZ 3	2
	TUTOR-MARKED ASSIGNMENT 1	10
	TUTOR-MARKED ASSIGNMENT 2	14
Overall Examinable Components	ECA	70
Total		100