An add-on Course

DC School of Architecture and Design, Vagamon conducts

Course on Green Built Environment

- 45 hours programme
- Starts on 19th June 2023
- Weekly two - hour sessions

Indian Green Building Council
Greening India since 2001

CII
Confederation of Indian Industry
125 Years - Since 1895

Focus Areas

- Introduction to IGBC
- Site Selection and Planning
- Water Conservation & Energy Efficiency
- Building Materials and Resources
- Indoor Environmental Quality & Innovation and Development

Mentors (IGBC Accreditd Faculties)

Ar.Anand Godson R
Ar.Gnana Shini G

Benefits

- Exposure to Green Concepts
- Exposure to green trends and technologies
- Knowledge on IGBC Green Building Rating Systems
- Green Certification Projects

DC SCHOOL OF ARCHITECTURE & DESIGN

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CERTIFICATION COURSE ON GREEN BUILT ENVIRONMENT

B.E CIVIL/ MECHANICAL/ ELECTRICAL/ ARCHITECTURAL/ ENVIRONMENTAL

Course Duration	**45 Hours**
Credits	-

Course objectives:

- **Impart knowledge on Green concepts in design, construction & operation of buildings**
- **Exposure to the latest Green Building trends & technologies**

Unit -1: Sustainable Architecture & Sites (6 hours)

- Integrated Approach for Green Building design: Factors for Site selection, Understanding Site Ecology & Site Analysis
- Soil erosion & pollution control measures: types of Soil Erosion, strategies to Mitigate Land Degradation, Design Techniques & Challenges
- Microclimate: Factors affecting microclimate & heat Islands, Strategies to handle heat island in built environment, Designing Green Spaces and Enhancing Biodiversity in built environment
- Universal Design: Key accessibility issues and Design guidelines

Unit-2: Water Management (8 hours)

- Water Balance and approach for water efficiency: 3R Approach for water efficiency – Reduce, Reuse/ Recycle and Recharge
- Water efficient plumbing fixtures, Standards & Codes
- Efficient irrigation practices – Hydrozoning, Control devices for water supply, Irrigation systems – Drip & Sprinklers
- Wastewater treatment & reuse, wastewater treatment technologies: Physical, Biological and Natural
- Rainwater harvesting and utilisation, Groundwater recharge techniques: Design considerations

Unit-3: Energy Management (10 hours)

- Introduction, Performance Evaluation and Approach for Energy Efficiency in Buildings
- Energy Efficiency Standards & Codes: ECBC 2017 & EPI, ASHRAE 90.1, ASHRAE 62.1, ASHRAE 55, ASHARE 170, ISHRAE 1001, Star labelling for appliances
- Efficient Building Envelope: Heating loads in buildings, Building orientation and form, Envelope Heat Transfer & Material Specifications – Wall, Roof & Fenestration
- Air Conditioning: Types of air conditioning systems, Design Considerations and control systems
- Lighting in Building: Daylighting & Artificial Lighting, Methods to determine ECBC compliance for interior lighting and Lighting Controls
- Renewable Energy systems and technologies

Unit-4: Sustainable Building Materials (6 hours)

- Attributes of Sustainable Building Materials: Recycled content, Regional material, Renewable material, Embodied energy, Embodied carbon, Material performance, Recyclability, Elimination of hazardous materials
- Ecolabeling of Products: Types of Ecolabels – Type I, II & III
- Sustainable Materials for Green Buildings: Ready mix concrete, Construction Blocks, Glass, Steel TMT Bars, Construction Chemicals, Insulation Materials, Cement, Paints
- Waste management during construction & post-occupancy: Segregation strategies, Types of waste management – organic, inorganic, e-waste, hazardous waste

Unit-5: Indoor Environmental Quality (10 hours)

- Indoor Air quality: Codes and Standards, Fresh air requirements, Design considerations
- Approach for improving Indoor air quality: Measures to reduce sick building syndrome, Demand control ventilation, CO2 monitoring in buildings, Air quality monitoring
- Enhancing occupants' Comfort, Health and Wellbeing: Thermal Comfort, Visual Comfort, Acoustics, Ergonomics, Olfactory Comfort.

Course outcomes:

At the end of the course the student will be able to:

- **Students would be Industry ready for in their careers in green built environment**
- **Opportunity to get accredited as 'IGBC AP - Associate'**

Sl No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Guide on Green Built Environment	IGBC	IGBC	2021
2	IGBC Green New Buildings rating system	IGBC	IGBC	2016
3	IGBC Green Homes rating system	IGBC	IGBC	2019
Reference Books				
1	National Building Code	Bureau of Indian Standards	Bureau of Indian Standards	2016
2	ECBC	Bureau of Energy Efficiency	Bureau of Energy Efficiency	2017
3	ASHRAE 90.1, 62.1, 55	ASHRAE	ASHRAE	2010