

**DISCIPLINE SPECIFIC CORE COURSE**  
**DSC HH 617: Space Design and Sustainability**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course(if any)
		Lecture	Tutorial	Practical/ Practice		
Space Design and Sustainability	4	3	0	1	XII Pass	Appeared in Personal Finance and Consumer Studies

**Learning Objectives**

- To understand the fundamentals of space planning.
- To acquire knowledge regarding materials, building construction techniques and technologies.
- To comprehend sustainable parameters in space design.

**Learning Outcomes**

- Comprehend the concept of design applicable to interior spaces.
- Understand the application of materials and finishes to create aesthetic and sustainable interiors.
- Comprehend the concept of sustainability and green rating systems.

**SYLLABUS OF DSC HH 617**

**THEORY**  
**(Credits 3; Hours 45)**

**UNIT I: Basic Concepts in Space Planning**

**10 Hours**

This unit will develop understanding regarding the concept of space planning and designing.

- Concept of space as a resource, characteristics of space
- Principles of planning spaces
- Zoning
- Types of houses: Independent houses and Apartments.
- Contemporary Housing - Service Apartments, Senior living.
- Building bye-laws – NBC and MPD

**UNIT II: Construction Features in Building Design**

**15 Hours**

This unit will acquaint students with various elements of building construction important for developing a strong structure.

- Site selection
- Conventional and Non-conventional building materials, sustainable building materials
- Structural components of a building (Material and Types) – Foundation, Walls, Flooring, Roofs, Doors and Windows, Staircase.
- Basic building services
- Landscaping
- Earthquake resistant structures
- Home Automation

### **UNIT III - Concept of Space Design**

**15 Hours**

This unit will introduce students to the area of space design such as elements and principles of design, furniture and furnishings and wall treatment.

- Introduction to Elements and Principles of design
- Concept of Colour in Interior Design - Colour Theories, Colour Psychology, Colour Schemes, Colour Forecasting
- Energy Efficient Lighting Systems
- Furniture - Types, Selection criteria, Arrangement
- Furnishings - Home Furnishing, Window treatment, Floor Coverings
- Wall treatment
- Use of sustainable material in space design

### **UNIT IV: Sustainable built environment**

**5 Hours**

This unit will introduce students to the concept and application of sustainability in built environment.

- Introduction to sustainable built environment
- Green building rating guidelines in India – GRIHA and LEED
- Concept of Smart Cities

### **PRACTICAL (Credits 1; Hours 30)**

1. Introduction to building terminologies, Concept of Scale, building constructions symbols
2. Evaluation of floor plans on the basis of principles of space planning
3. Preparation of floor plans
  - Multipurpose rooms/ studio apartment (Computer aided / manual)
4. Identification and characteristics of different building materials
5. Case study of a Green Building
6. Project on Landscaping / Home Automation

**Essential Readings:**

- Goel S., Seetharaman P. Kakkar, A. (2015). *Manual on Interior space designing*, Elite publishers.
- Goldstein, H. & Goldstein, V. (1988). *Art in Everyday Life (4th ed.)*, Oxford & IBH Publishing Co.
- Indian Green Building Council. (2022). *Introduction to Green Buildings and Built Environment*, BSP Books.
- Kumar, S. (2008). *Building Construction*, Standard Publisher.
- Rao, M.P. (2020). *Interior Design Principles and Practices*, Standard Publishers Distribution.

**Suggested Readings:**

- Duggal S.K. (2017). *Building Materials*. CRC Press.
- Green Rating for Integrated Habitat Assessment (GRIHA). (2021). *GRIHA Manuals*, GRIHA Council.
- Grimley, C. and Love, M. (2018). *The Interior Design Reference & Specification Book*, Rockport Publishers.
- Indian Green Building Council. (2021). *IGBC Manuals*, IGBC.
- Iyer, G. H. (2022). *Green Building Fundamentals*, Notion Press.
- Mitton, M. and Nystuen, C. (2021). *Residential Interior Design: A Guide to Planning Spaces (4th ed.)*, Wiley.
- Singh, G. (2019). *Building Construction and Materials*, Standard Publishers.

**Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.**