

## Credit distribution, Eligibility and Pre-requisites of the Course

GENERIC ELECTIVES (GE HS 018): INNOVATIVE DESIGN PRACTICES							
Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course	Department offering the course
		Lecture	Tutorial	Practical/ Practice			
Innovative Design Practices	4	3	0	1	12 <sup>th</sup> Pass	NIL	Home Science

### Learning Objectives

The Learning Objectives of this course are as follows:

- To sensitize students towards innovation in design to improve the quality of life of users as well as comply with environment protection.
- To stimulate the students to engage in creativity and integrate sustainability in their design endeavours.

### Learning outcomes

The Learning Outcomes of this course are as follows:

After studying, students will be able to:

- The student will be able to get sensitized towards innovation and creativity through innovative and sustainable design practices and techniques.
- The student will be able to carry out development of product and prototyping from a sustainability perspective.
- The student will be able to brainstorm new product ideas in a systematic manner.

### Unit I: Introduction to Innovation in Design

**(09 Hours)**

The focus of this unit would be on understanding the theoretical concepts related to innovation, design and creativity.

Subtopics:

- Concept of Design, Innovation, and Creativity
- Theories and principles of design and innovation
- Challenges to innovation

### Unit II: Methods and techniques for Innovation in Design

**(12 Hours)**

This unit focuses on studying the various methods and techniques used for design innovation

Subtopics:

- Understanding disruptions in innovation approaches, case analysis
- Process of creativity and design
- Methods of ideating, creating and implementing innovative design ideas

### Unit III: Approaches for Sustainability in Design

**(12 Hours)**

This unit attempts to acquaint the students with contemporary techniques and approaches for integrating concepts of sustainability in design.

Subtopics:

- Role of sustainability in design practice
- Emerging trends and sustainable methods and techniques of design
- Sustainable Materials: reclaimed and eco-friendly composite materials
- Contemporizing traditional designs
- Circular Economy as a pathway to sustainability in design

#### **Unit IV: Design Development and Presentation**

**(12 Hours)**

This unit will develop competence amongst students towards creating and executing their innovative design ideas.

Subtopics:

- Critical evaluation of existing designs:
  - Products
  - Interiors and Space
- Case study of Innovative design practices related to:
  - Interiors and Space

Product

### **SYLLABUS OF GE HS 018**

**Practical component (if any)**

**PRACTICAL: 30 Hours**

#### **Unit I: Brainstorming Methods**

Activities:

- Sessions on Tinkering Lab
- Engaging students in a practical setup for brainstorming
- Narration / Documentation of brainstorming sessions
- Workshop/ Field Visits- Contemporary discussion with the artists and designers

#### **Unit II: Project on Innovative Design Idea**

Activities:

- Case study on Reuse/ Recycle/ Reclaim products
- Minor project on sustainable materials
- Portfolio on Innovative Design Idea
- Description
- Relevance of the idea in present context Digital Presentation / Prototype of Innovative Design Idea

### Essential Readings

- Brown, T. (2019). Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation. ISBN-13: 9780062856623
- Soni, P. (2020) Design Your Thinking: The Mindsets, Toolsets and Skill Sets for Creative Problem-solving.
- Jones, J. C. Design Methods. ISBN-13: 978-0471284963
- Ashby, M.F, Johnson, K. Materials and Design: The Art and Science of Material Selection in Product Design.
- Allwood, J, Cullen, J. (2011). Sustainable Materials.
- Desai, A, Mital, A. Sustainable Product Design and Development. ISBN: 9780367343217
- William McDonough and Michael Braungart (2002). “Cradle-to-Cradle: Remaking the Way We Make Things”, North Point Press, New York.
- Lance Hosey, (2012). “The Shape of Green: Aesthetics, Ecology, and Design”, Island Press, Washington, D.C.

### Suggested Readings

- Norman, A.D. The Design of Everyday Things: Revised and Expanded Edition.
- Kaptelinin, V. Affordances and Design.
- Pivot. From Concept to Product Launch: A guide to Product Development.
- Monto Mani and Prabhu Kandachar (Eds) (2015), “Design for sustainable well-being and empowerment: Selected Papers”, IISc, Bangalore and TU Delft, The Netherlands.
- Papanek, V. (1984), “Design for the Real World”, 2nd Edition, London: Thames & Hudson.
- White Lemon, “365 Days of DIY”, Create Space Independent Publishing Platform, 2016.
- Jaffe, S.B et.al. (2020). Sustainable Design Basics.



**REGISTRAR**