

**NIRMA UNIVERSITY**  
**INDUSTRIAL DESIGN PROGRAMME**  
**Bachelor of Design, Department of Design**  
**Year III, Semester V**

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<b>Course Code</b>	<b>IDSK 312</b>
<b>Course Title</b>	<b>Creative Thinking Methods</b>

**Course Learning Outcomes (CLO):**

At the end of the course the students will:

1. Design creative solutions for everyday problems with new insights developed through new ways of seeing in a non-linear and non-causative manner
2. Apply divergent ways of thinking to solve design problems
3. Explore and infer new methods of problem solving by studying other organisms

**Syllabus:**

**Total Teaching hours: 67.5**

**Unit 1: Bio Mimicry**

**Teaching hours: 15**

**Introduction to the natural processes in nature and its study:**

- 1.1 Study of an organism and its design strategies for survival
- 1.2 Study of its habitat, body, limbs, food collecting and other survival strategies

**Unit 2. Ideating with Metaphors**

**Teaching hours: 12**

- 2.1 Exploration of problems and their origin
- 2.2 Identification of existing solutions and radically turning them around through use of techniques such as imagining with related metaphors, puns and puns on metaphors

**Unit 3: Spontaneous and Intuitive Design solutions**

**Teaching hours: 12**

- 3.1 Solution making using unconventional materials
- 3.2 Quick Prototyping; thinking on one's feet

**Unit 4: Recycle and Re-Use**

**Teaching hours: 12**

- 4.1 Discarded Objects as biological and technical nutrients of the environment

## **Unit 5: Thinking “Inside the Box”**

**Teaching hours: 16.5**

- 5.1 Subtraction: Removal of a significant part of a design
- 5.2 Task Unification: bringing tasks together, unifying them within one component
- 5.3 Multiplication: Repeating a component for a differing impact
- 5.4 Division: Separating components and placing in a new location
- 5.5 Attribute Dependency: Two unrelated product attributes to be correlated with each other

### **Suggested Readings:**

1. *Cradle to Cradle: Remaking the Way We Make Things*, by William McDonough, North Point Press, 2002
2. *Children Solve Problems* by Edward De Bono, Penguin Books, 1972
3. *The Ecology of Commerce: A Declaration of Sustainability*, Revised Edition, Collins Business Essentials, 2010
4. *The Humane Gardener: Nurturing a Backyard Habitat for Wildlife*, Nancy Lawson, Princeton Architectural Press, 2017