

Course Outline

‘DESIGN PARADIGM: SOURCE OF INNOVATION & INVENTION’

The proposed course would like to address the followings- What is **Design Paradigm**? How is it related to design education? Does Design Paradigm help us to think differently? By studying design paradigm does it make you a better designer? Does it make you more innovative? The topic of paradigm in design is directly or indirectly related to design activities. While trying to understand ‘paradigm’ the course would try to focus on its relationship to design, which may lead to searching for paradigm based innovative ideas.

Introduction to Design Paradigm; Recognizing Design Paradigm; Paradigm as Metaphor; Design & Natural Phenomenon- Biomimicry; The Human Body; Where Does Form Come From? Design, Paradigm & Science of Design; Natural Development in Traditional Design; Simple Shape Paradigm- Basic Geometrics; The Platonic Solids; Paradigm in Nature Ball, Sheet, Tube, etc. Concept of Enclosure; Bending & Flexing; Bigger & Smaller; Complex Paradigm; Objects with in Objects; Multi-function Objects

Text/References

Bailey, Jill. ***Animal Life: Form and Function in the Animal Kingdom***,
NY: Oxford University Press, 1994

Beck, Benjamin B. ***Animal Tool Behavior: The Use and Manufacture of Tools by Animals***,
New York: Garland, 1980

Buciacarelli, Louis L. ***Designing Engineers***, Cambridge, MA: MIT Press 1994

Fuller, R. Buckminster. ***Synergetics: Explorations in the Geometry of Thinking***,
New York: Macmillan Pub. 1975, '82

Fuller, R. Buckminster. ***Inventions: The Patented Works of R. Buckminster Fuller***,
New York: St. Martin's Press, 1983

Hargroves, K. D. & Smith, M. H. (2006). *Innovation inspired by nature Biomimicry*. Ecos, (129)
Roukes, Nicholas. ***Design Synectics: Stimulating Creativity in Design***, Worcester, MA: Davis
Pub. 1988

Rowe, Peter G. ***Design Thinking***, Cambridge, MA: MIT Press 1987

Thompson, D'Arcy W. ***On Growth and Form***. Dover 1992 reprint of 1942 2nd ed. (1st ed., 1917)
Wake, Warren K., ***Design Paradigms A Source for Creative Visualization***, New York: John Wiley
& Sons, 2000