

COURSE OBJECTIVE:

The primary objective of the course is to introduce concepts in engineering design to students from all the engineering disciplines. This course broadly covers the prerequisites for an innovative design followed by concepts of products design cycle right from planning, designing, manufacturing, distributing and its usage.

COURSE CONTENT:

Introduction to engineering Design process: Its importance, types of designs, various ways to think about design like visualization, photography etc, simplified iteration model, design versus scientific method, a problem solving methodology.

Considerations of a good design Achievement of performance requirements, Total life cycle, Regulatory and social issues in Indian context

Description of Design Process Conceptual Design, Embodiment Design, Detail Design, Planning for

Manufacture, Planning for distribution, Planning for Use, Planning for the retirement of the product.

Product Design Cycle, Identification of customer needs and market research essentials, concept generation, technology and market assessment

An exposure to various aspects of design including visual, creative and user-centric design (Visual merchandising, trends, materials, technology and techniques). Evolution in Transportation and Communication Technology, Bullock Cart to Lear Jets, Personal messengers to Cell Phones, Fighter planes

Introduction to any one as a case study:

1. Communication Design
2. Industrial Design
3. IT Integrated Design
4. Textile Design
5. Inter disciplinary Design

COURSE OUTCOMES

Student after successful completion of course must possess an understanding of various concepts of design, product design cycle, and significant principles inevitable for design of any engineering product or services.

EVALUATION

Evaluation will be continuous an integral part of the class as well through external assessment.

REFERENCES

George E. Dieter and Linda C. Schmidt, Engineering Design, McGraw Hill Education (India) Pvt. Ltd.
Arvid Eide, Introduction to Engineering Design, McGraw Hill.
Otto. K and Wood, K, Product Design, Pearson Education