Innovation Fundamentals (2 Credits)

Course Objective:

This project based course gives students the ability to understand, contextualize, and analyze engineering designs and systems. By learning and applying design thinking, students will more effectively solve problems in any domain. This course develops students' skills to conceive, organize, lead, implement, and evaluate successful projects in any engineering discipline.

Course Outcome:

At the end of this course student will be able to improve following skills:

Diagnostic and analytical skills

Build up judgmental and interpretation

skills Formulate and develop strategy.

Chapter 1. Principles of Design

Introduction
Step in Design Process
Research; Stakeholder Analysis
Articulating Design
Psychology
Usability
Dialogue Systems Technology
Dialogue System Design
Branding

Chapter 2. Design is Everywhere

Creativity
Project Management
Presentation Skills
Group Project Success
Innovation and Ethics
Individual Presentation

Chapter 3. Project Implementation/Interdisciplinary Design

Buy or Build; Process Improvement
Individual Project Implementation
Group Project Implementation

Reference Book:

Tidd, J., Bessant, J. and Pavitt, K., "Managing Innovation: Integrating technological, market and organizational change", 3rd edition, John Wiley and Sons, 2005.

Schilling M., "Strategic Management of Technological Innovation", McGraw-Hill/Irwin, New York, 2005.

Gans, J.S., and Stern, S. "The product market and the market for 'ideas': commercialization strategies for technology entrepreneurs", Research Policy 2003.

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