



Engineering and Technology Management

COURSE SYLLABUS

Course Number: E M 591

Course Name: Strategic Management of Technology and innovations in Engineering

Instructor: John Pricco

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Semester Credits: 3

Prerequisites: None

Course Description and Objectives:

Strategic Management of Technology and Innovation focuses on the effective integration of strategic management principles with the difficult tasks of innovation and new product development. The course is presented with a combination of traditional lectures and student-lead case analyses. Students will be divided into teams, which will present in-depth analyses of modern and classical business cases that illustrate the concepts developed during the course. Cases illustrate real-world struggles with both product and process innovation and attempting to introduce innovations into the marketplace. In addition to case analyses, each student will prepare one short concept paper during the course of the semester. Topics may be developed from course readings, relevant journal articles, books, or current articles from the Wall Street Journal or other business publications. Each paper will consist of a review of the basic concept (including a summary of the published background) and a critical analysis of how the concept or approach might be applied in your real-world context. Finally, all students (or team of students) will prepare a case analysis of their own businesses or industries. This audit will be based upon the concepts, tools, and models presented in this course, as well as other appropriate frameworks from your personal experience or other literature.

Course Topics:

- Industry Dynamics of Technological Innovation
 - Sources of Innovation
 - Types and Patterns of Innovation
 - Standards Battles and Design Dominance
 - Timing of Entry
- Formulating Technological Innovation Strategy
 - Defining the Organization's Strategic Direction
 - Choosing Innovation Projects
 - Collaboration Strategies
 - Protecting Innovation
- Implementing Technological Innovation Strategy
 - Organizing for Innovation
 - Managing the New Product Development Process
 - Managing New Product Development Teams
 - Crafting a Deployment Strategy

Grading:

Concept Paper: 15%, Case Analyses: 30%, Strategic Audit: 30%, Participation: 5%,
Chapter Quizzes: 20%