

SST301e Strategic Management of Technology

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

E-Learning: BLENDED - Learning is done MAINLY online using interactive study materials in Canvas. Students receive guidance and support from online instructors via discussion forums and emails. This is supplemented with SOME face-to-face sessions. If the course has an exam component, this will be administered on-campus.

Synopsis:

SST301 Strategic Management of Technology introduces the concepts of Systems Thinking to students, and then through their subsequent progression how to infuse Systems Thinking Concepts into their analyses of strategic management case studies. The rest of the course covers the general management perspective on integrating technology and strategy, the design and implementation of technology strategy viewed from an evolutionary perspective, identification of key issues in the development of a company's innovative capabilities to implement a technology strategy, as well as the creation and implementation of a development strategy. The course concludes with a discussion on generating new ideas through case studies on how to increase a company's capacity for the management of technological innovation.

Topics:

- Concepts of marketing, finance, accounting and supply chain
- Introduction of systems thinking to analyze issues in strategic management
- Technological innovation: Putting technology into corporate planning
- Technological innovation and strategy: Management criteria for effective innovation
- Technological evolution: Exploring the limits of the technology S-curve and patterns of industrial innovation
- Organizational and industrial contexts in design and implementation of technology strategy
- Development of a company's innovative capabilities
- The link between new technology and novel customer needs
- Strategy concepts in new product development
- Building capabilities through new product development
- Innovation challenges in technological companies: building a learning organization
- Case analyses taken from the electronic, biomedical, ICT, building and aerospace sectors

Textbooks:

: Strategic Management of Technological Innovation (6th Edition, 2019), by Melissa Schilling.
McGraw Hill Education (e-Textbook) 6th Edition McGraw Hill
ISBN-13: 9781260569797

Learning Outcome:

- Formulate case study solutions through the use of Systems Thinking, marketing, finance, accounting and supply chain concepts
- Assess the relationships between corporate strategy and technology
- Debate the design and implementation of technology strategies in given cases from an evolutionary perspective
- Set up the key issues in the development of a company's innovative capabilities to implement a technology strategy
- Create and implement a technology strategy given a case study
- Evaluate main ideas generated from a given case study to increase and develop capabilities for managing technological innovation

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PRE-CLASS QUIZ 3	2
	QUIZ 1	8
	GROUP BASED ASSIGNMENT 1	16
Overall Examinable Components	Written Exam	70
Total		100