

IE 414 Manufacturing and Digitalization Strategies

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Office Hours:

Wednesday 13:40-15:30 or by appointment.

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Objectives

The central objective of this course is to develop skills at analyzing and synthesizing solutions to manufacturing strategy-related issues. Since the range of potential manufacturing issues is quite extensive, we will concentrate primarily on Industry 4.0/Digitalization and digital transformation with particular relevance to future executives and attempt to encapsulate the most contemporary areas of the discipline.

Recommended or Required Reading

Textbook: Class notes.

Readings: Articles, reports, presentations, and websites.

Course Web: SUCourse

Cases: Three Harvard Business School cases.

Optional Readings: Papers, reports, presentations, website links will be added to SUCourse+ for optional reading.

List of Topics:

1. Strategy / Competitiveness / Innovation
2. Introduction to Manufacturing Strategy
3. Industry 4.0 / Digitalization
4. Internet of Things (IoT) and Supply Chain Management
5. Manufacturing Operations Management (MOM)
6. Product as a Service - Servitization
7. Maturity and Readiness Models for Industry 4.0
8. Manufacturing Strategy and Operations
9. Balanced Scorecard

Learning Outcomes

- At the end of the course the student will have a detailed working knowledge on the issues of digital transformation in industry and services.
- At the end of the course the student will be armed with a set of topics and concepts of manufacturing strategy.
- At the end of the course the student will have a detailed working knowledge on designing a manufacturing strategy at the factory level.
- At the end of the course the student will have a detailed working knowledge on the issues of Industry 4.0 / Digitalization.
- At the end of the course the student will have a working knowledge on Activity-Based Costing, Balanced Scorecard, and Product as a Service - Servitization.

Course Policies & Grading

Attendance is required. The articles/cases included providing real world illustrations of key concepts rely significantly on active student participation.

The deadlines are strict unless the student has an official excuse (a medical report either given by or approved by the Health Center of SU). Generous deductions will be made for late submissions.

Cheating is subject to disciplinary action and a null grade.

	Percent (%)	Number of
Assignments	30	6
Case Study	35	3
Participation/Attendance	10	-
Final Exam	25	1

Assignments:

Assignments will be short individually prepared papers answering questions related to topics covered in class.

Case Study:

Three case studies will be covered. The students are expected to read these cases, be able to discuss them in class and write a short report answering questions asked on the case.

Final Exam:

The final exam will be delivered in class or as take home.

Note:

It is at the discretion of the instructor to make any changes in the Syllabus.