

IEDA 3460: Demand and Supply Analytics

Prof. Jiashuo Jiang

2024 Spring

Course Information

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Course Description

This course covers major topics in supply chain management, the general process of matching supply with demand. Supply chains are networks of organizations that supply and transform materials, and distribute final products to customers. This course views the supply chain from a general manager's perspective. Supply and demand management represents a great challenge as well as a tremendous opportunity for most firms. If designed and managed properly, supply chains are a crucial source of competitive advantage for both manufacturing and service enterprises. This becomes even more important as product life cycles are shrinking, product and service variety is growing and competition is intensifying.

Prior knowledge in IEDA 4100 (supply management) and IEDA 4420 (demand management) is a plus, but not required. This course lies in the interface of supply and demand management and bridges the two.

Learning Outcomes

1. Understand how to make supply chain design and policy decisions to develop the supply chain capabilities required to support the business strategy and improve the performance of a firm and of an entire supply chain.

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2. Learn how to examine and improve the flow of materials and information through a network of suppliers, manufacturers, distributors, and retailers in order to help firms get the right product to the right customer in the right amount and at the right time.
 3. Learn how to make decisions on the following fundamental supply chain performance drivers: facilities, inventories, transportation, information, sourcing and pricing.
 4. Special emphasis is given to gaining an understanding of how supply chain decisions have to account for coordination requirements within and across firms, the impact of uncertainty, and the specific product and customer characteristics that derive from the overall business strategy.

Course Outline by Major Topics

1. Supply Chain Design, Planning & Operation
2. Facility Location
3. Supply Chain Planning
4. Inventory
5. Transportation
6. Supply Chain Risks
7. Supply Chain Coordination
8. Sourcing
9. E-commerce

Textbook

"Supply Chain Management: Strategy, Planning, & Operation"
Chopra & Meindl (C&M), 6th Ed.

Grading

The grading outlined below is tentative.

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- 15%: Homework.
 - 35%: Mid-term or Presentations.
 - 50%: Final.