Production Management

IEOR 4000

Guillermo Gallego
Liu Family Professor of IEOR
Self Introduction

- Liu Family Professor of Industrial Engineering & Operations Research Dept.
- Research interest in Supply Chain Management and Revenue Management
- Chairman IEOR 2002-2008
- Informs Fellow 2012; MSOM Fellow 2013
- Consultant for IBM, Lucent, HP, Sabre, SAS, Disney and other large corporations
Topics to Be Covered

• Today: History of Operations Management, Production systems, Recent trends.

• Deterministic models:
  – EOQ, EPQ, JRP, ELSP, APP, MRP

• Forecasting:
  – MA, ES, MMFE.

• Stochastic models:
  – Newsvendor, Serial, Distribution and Assembly Systems

• Just-in-Time Production
Benefits to Be Obtained

• Understand production and inventory systems
• Understand basic tradeoffs between
  – Inventory holding costs, ordering costs, backorder costs, service levels; The cost of demand uncertainty and of forecast errors; Hiring and firing costs; Efficiency and the cost of variety.

• Learn about
  – Production/inventory management techniques
  – Forecasting
  – Risk and sensitivity analysis
  – Supply chain design issues
Intended Audience

• Fulfills requirement for Analysis Group for MS&E students.
• Students entering the fields of industrial engineering or supply chain management.
• Students interested in learning how to develop models.
• Production and general managers wishing to understand models behind decision support systems.
Prerequisites

• Working knowledge of calculus.
• A good course in probability and statistics. This can be taken concurrently.
• A deterministic models course (linear programming). This can be taken concurrently.
• Knowledge of Excel or equivalent spreadsheet program.
• Willing to work hard.
Textbook and Evaluation


- Assignments: 15%
- Midterm: 40%
- Final: 45%