COURSE NUMBER: IE 5551, 4 credits	**COURSE TITLE:** Production Planning and Inventory Control
TERMS OFFERED: Spring	**PREREQUISITES:** IE 4521; Upper Division IT or Grad Student
TEXTBOOKS/REQUIRED MATERIAL: Factory Physics by Wallace Hopp and Mark Spearman Course packet The Resilient Enterprise by Yossi Sheffi	**PREPARED BY:** Saif Benjaafar **DATE OF PREPARATION:** May 7, 2007
COURSE LEADER(S): Saif Benjaafar	**CLASS/LABORATORY SCHEDULE:** A 2-hour lecture twice per week. **CONTRIBUTION OF COURSE TO MEETING PROFESSIONAL OBJECTIVES:** 100% Engineering Topics
CATALOG DESCRIPTION: Inventory control, supply chain management, demand forecasting, capacity planning, aggregate production and material requirement planning, operations scheduling, and shop floor control. Quantitative models used to support decisions. Implications of emerging information technologies and of electronic commerce for supply chain management and factory operation.	**COURSE TOPICS:** Topics covered include demand forecasting, capacity planning, production planning and scheduling, inventory control, supply chain coordination, and queuing analysis of manufacturing operations.

COURSE OBJECTIVES	The objective of the course is to familiarize students with quantitative models that can be used to support decisions in the areas of production and inventory control. Special emphasis is given to the link between operational issues and strategic decisions regarding capacity, flexibility, and product variety. Additional emphasis is on the implications of emerging information technologies to supply chain management and factory operation.
COURSE OUTCOMES	**(Letters shown in brackets are links to department outcomes a-k)** 1. Students learn to apply quantitative models to make decisions in managing production and inventory systems. [a, c, e] 2. Students develop an understanding of the interaction between different levels of the supply chain. [k] 3. Students learn how to build decision support tools to design, optimize and simulate production and inventory processes. [b, c, d, e, g]
ASSESSMENT TOOLS:	1. 7 problem solving assignments 2. 2 in-class exams 3. 1 final project 4. 1 paper presentation per week, led each week by a group of 2 students

IE 5551

Nature of Changes

1. ***The Required material now includes a course packet and The Resilient Enterprise by Yossi Sheffi***
2. ***There are minor wording changes to the catalog description and course topics***