IEOR 4001 Design and Management of Production and Service Systems (spring semester)

Instructor: Lucius Riccio

Course Description:

This course is designed to integrate much of the material learned in other advanced IE and OR courses to improve the student’s understanding of the application of these advanced methods to increase the performance of production and service systems. Emphasis is placed on the practical implementation of recommendations generated from the advanced modeling and system’s understanding gained in the full range of IE and OR fields. The intent is to strengthen the student’s management skills by applying the technical and theoretical IE and OR material provided throughout the curriculum to both production and service delivery systems equally.

The basic approach taken is to study the important production and service delivery topics using the case study method, although the students will also demonstrate technical expertise with specific homework problem assignments as well. Each week students will present an analysis of key issues in an assigned case pertinent to the topic under consideration. Most case reports will be done in groups and presented in class discussion. The case studies describe the real operations of domestic or foreign companies. Students are expected to apply what they have learned thus far from the curriculum, especially those topics covered in E 4000 and/or E 3402, to address those topics raised in the cases. Class meetings are largely devoted to detailed case analysis and discussions. Motivated by the case studies, we may also introduce some new theory. The primary goal of the course is to allow students to see the applications of theories in a more realistic and intricate setting to gain a broader view of production and service management.

Topics covered include Process Analysis, Forecasting, Capacity Planning, Queueing Systems, Inventory Management, Quality Management, Supply Chain Management, Just-In-Time Management and Process Re-engineering.

Prerequisite:

Production Management (IEOR 4000) or Production-Inventory Planning and Control (IEOR 3402)