Syllabus

++ IEOR E3402, Production Inventory Planning and Control, Spring 2013
Meeting Location: 501 Northwest Corner
Meeting Time: Tue&Thur 05:40P-06:55P
Recitation: Fridays, 1:00-2:00 PM, Mudd 227
Instructor: Bo Zhang. bz2221@columbia.edu.
Instructor's Office Hours: Mudd 303. T 8:00-9:00 PM.
TA: Matthieu Plumettaz. mp2761@columbia.edu.
TA Office Hours: Mudd 325. M 10:00-11:00 AM

This course equips students with knowledge of fundamental issues in production and inventory planning and control in manufacturing firms, at the same time, developing the students’ modeling and analytical skills. The course is targeted toward engineering students planning careers in technical consulting, business analysis in operations, logistics, supply-chain and revenue-management functions, positions in general management and future entrepreneurs.

The course will cover inventory management and production planning; material requirements planning; aggregate planning of production, inventory, and work force; multi-echelon integrated production-inventory systems; and production scheduling.

Students will have an opportunity to participate in a computer-simulation game where, as operations managers for a company, they work in teams to manage capacity, inventories, scheduling, and purchasing of parts. The recitation section is required.

This course is for undergraduates only and is required for all undergraduate students majoring in IE, OR/EMS, OR/FE and OR. This class must be taken during (or before) the sixth semester.

+++ Prerequisites

SIEO W3600 Intro to Probability and Statistics and IEOR E3608 Intro to Mathematical Programming

+++ Course Content

* Forecasting
* Aggregate Planning
* Inventory Management: Deterministic
* Inventory Management: Stochastic
* Queueing Systems
* Scheduling
* Revenue Management

+++ Required Materials

* Individual code for playing the simulation game Littlefield Technologies. To purchase a code, go to http://lab.responsive.net/lt/zhang/start.html and on this webpage there is a link to their virtual store.

+++ Recommended Materials


+++ Grading

- Assignments: 10 %
- Littlefield Project: 10 %
- Midterm Exam 1: 15 %
- Midterm Exam 2: 15 %
- Final Exam: 45 %
- Participation: 5 %

+++ Assignments:

There will be approximately 6-10 assignments. Unless otherwise noted, you are permitted to work together, but you must submit individual solutions. You are required to acknowledge any book or person you have consulted. In fairness to other students, late submissions will NOT be accepted. Littlefield Project (Group): Littlefield Technologies is a computer simulation game where, as operations managers for the Littlefield company, you and your team's responsibilities include managing capacity, managing inventories, scheduling, and purchasing of parts. You will work as a group of three to five students. There will be two game plays. Your grade depends on (i) game performances, (ii) written reports, and possibly (iii) peer evaluation among team members.

+++ Midterm Exams:

There will be two in-class midterms.

+++ Final Exam:

The final exam schedule will be determined by the registrar. For the make-up final exam, the instructor requires written documentation of the student’s reason for missing the exam, as well as notification prior to the scheduled exam. If the instructor decides that the reason(s) for the absence is/are valid, the student will be scheduled for the make-up exam. However, the make-up exam will not be easier than the regular exam.
+++ Participation:

The participation grade is based on the instructor’s evaluation of each student’s contribution to the class throughout the semester.

+++ Regrading:

If you feel that your performance has been under-evaluated, please resubmit your work, along with a written statement directly to the course instructor within three days after receiving your grades, explaining clearly why you feel that your grade should be adjusted. The instructor will regrade your ENTIRE assignment/exam, which may possibly lower your grade. If you are not satisfied with the regrading, please talk to the instructor in person.

+++ Academic Integrity

As a part of the University, this course upholds and enforces the general university policies on academic honesty and plagiarism. All examinations and written homework assignments are subject to the usual standards of academic honesty as described in the University’s Student Handbook and other related publications. The ordinary University penalty for a first offense of cheating is disciplinary probation. A subsequent violation ordinarily results in suspension or dismissal from the University. However, other disciplinary actions are possible, depending on the judgment of the Dean of Students of the School.