

OM S335 OPERATIONS MANAGEMENT

Unique Number: 71980 summer 2012

Instructor:	Wen Chen	Meeting Time:	MTWTH 10:00 – 11:45 PM
		Classroom:	UTC 1.118
Office:	CBA 5.334E	Office Hour:	MWF 2:00 – 3:00 PM
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Course Overview:

Operations management (OM) involves the integration of numerous activities and processes to produce products and provide services in a highly competitive global environment. Most organizations recognize that world class performance in operations is essential for competitive success and long-term survival. We will consider key performance measures of operations (productivity, flexibility, quality, and response time) as well as important concepts for improving the performance of operations along these dimensions. This course takes a lectures plus cases format. Lectures are about to give you the necessary concepts and tools to identify and analyze operations problems. Cases are about to give you means to apply what you have learned from the course to “real-world” operations problems and to see how these tools and skills can be applied to improve operations performance for organizations.

Course Objectives:

Upon finishing the course, you are expected to achieve the following goals:

- ♣ Gain basic concepts of operations management and the challenges faced by today’s firms.
- ♣ Understand various production processes and service systems.
- ♣ Acquire skills to uncover operational problems and improvement opportunities in production or service processes and apply techniques learned from the course to give useful recommendations to managers.
- ♣ Work with people from different background as a team to solve complex real world business operations problems.

Prerequisites:

The following prerequisites assumed for registering this course:

- ♣ Credit or registration for BA 324 or credit for MIS 324
- ♣ Credit or registration for STA 309

Course Materials:

- ♣ **Textbook:** Cachon, G. and C. Terwiesch. 2006. Matching Supply with Demand: An Introduction to Operations Management. 2nd Edition. New York, NY: McGraw-Hill / Irwin.
- ♣ **Reading:** Goldratt, E. M. 1992. The Goal, 2nd Edition. Great Barrington, MA: North River Press, Inc.
- ♣ **Course Packet:** A course packet including all the cases and articles we are going to use in class is available at CBA, 3rd, Media Center.
- ♣ **Course Website:** This course will use Blackboard substantially. The login page is located at <http://courses.utexas.edu/>. A UT EID is required for accessing the website. If you have problems using Blackboard, you can call the ITS help desk at 475-9400. You will find the followings on Blackboard:
 - ♣ **Course Notes:** To support the lectures, I will be posting PowerPoint slides and/or lecture notes on Blackboard as the semester goes on. While these notes would be posted just before the class, they are not intended to be a substitute for attending class.
 - ♣ **Assignments and Solutions:** There will be 14 independent problem sets and 4 group homework assignments to be turned in during the semester. The purpose of homework assignments is to provide learning reinforcement and to prepare you for the class participation. You will find that the homework provides excellent learning feedback and is a confidence-building tool too. The assignments will also help you prepare for the exams.
 - ♣ **Feedback:** You and I shall work together to create the best learning environment we can. Your informal feedback about the class and the course is very important to me. Please do let me know throughout the semester if there is anything I can do to make the delivery of the course better for you.
 - ♣ **Grades:** Grades on exams and assignments will be posted on Blackboard. Please check that the grade posted matches the grade on your paper copy and notify the instructor as soon as possible in case of a discrepancy.

Performance Evaluation:

Your grade will be based on the following distribution:

Midterm Exam:	20%
Final Exam:	40%
Individual Homework:	15%
Group Assignment:	10%
Class Participation:	10%
Beer Game	5%
Total:	100%

The requirements and a description for each item are outlined below.

1. **Exams:** The Midterm Exam (**30th July**) will cover the materials through Sessions 1-10 and the final exam would be comprehensive, but with more emphasis on Session 13-24. The exams may contain true/false, multiple choice, short answer, or analytical problem solving questions. The exams are closed book and closed note. You are allowed to bring one page of cheat sheet (formula, etc, anything you deem important). Do remember to bring your calculator. No Laptop allowed. Other necessary tables used throughout the semester will be provided during the exam.
2. **Make-up Exams:** Offering a make-up exam for a missed exam is entirely at the discretion of the instructor. Students with legitimate reasons and **letters of proof** could request to take make-up exams.
3. **Individual Homework:** There will be 13 individual assignments throughout the semester. You are required to submit 10 of them, which are P01, P02, P03, P04, P05, P09, P10, P11, P12 and P13. Homework should be turned in, properly stapled if two or more pages, at the beginning of the class session on the due date.
 - a) If you do not get the full grade at the first time, you still can fix the problems by yourself and turn in again before the end of the week. If you correct your own mistakes in five days, then you will get 50% grade back.
 - b) Each performance based question will be graded on a 4-point scale. You have the opportunity to drop the lowest grade if you submit ALL 10 homework. You do not have the choice to drop any grade if you submit only 9 or less homework.
4. **Group Assignment:** There will be four case studies and the discussion of “The Goal” which will be completed in self-formed groups of no more than **five** students. The cases are meant to give you a taste for some “real-world” operational problems. A question set will be provided for each of the case. The assignment of GP03 UHS case doesn’t need to submit. Each group only need to submit one report and will receive one single grade. Please write down all members of your group at the report. In your report, address all the questions posted for the case. All reports need to be typed using 12-point font and 1.5 line space. The only exception to the typing rule is when you want to include diagrams or drawings. Hand drawing is acceptable in your report. **NO LATE CASE REPORTS WILL BE ACCEPTED** because we will discuss the case in class on the day when it is due.
 - a. You need to attend the discussion of one group. Please make sure your name is typed at the report of your group submission.
 - b. “The Goal”: This internationally recognized best seller is a classic piece which captures many of the concepts and issues regarding firm’s operations addressed in the course. It is a fun summer reading and does not require any prior knowledge or mathematical skills. Start to read it now! Do not wait until the day the summary is due.
 - c. At the end of the semester, you will be asked to evaluate every team member of your group. And the peer-evaluation results will be incorporated into the final grades. You need to report to me any serious issues you have with your team members as early as

possible. But do remember that one of the most valuable skills you can develop over your college years is to learn how to be a good team player and solve team conflicts effectively.

5. **Mandatory Class:** The Beer Game

On the day of “Beer Game”, we need to meet **from 10:00am to 12:00pm on August 8th**. Please don’t be late. “Beer Game” is an incredibly popular, entertaining and educational activity; its purpose is to introduce students to one of most crucial issues in Supply Chain Management. Please contact me **immediately** if there is a scheduling conflict.

Scholastic Dishonesty:

I take honesty and integrity very seriously. I will follow up on issues according to university rules. For more information, you can refer to the website at <http://deanofstudents.utexas.edu/sjs/>. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the university. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.

Students with Disabilities:

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

If for some reason you need special assistance to take an exam or complete an assignment please notify me ahead of time so that special arrangements can be made in a timely fashion.

The following is a tentative schedule of meetings, readings, and deliverables for the semester. This is subject to change. When there are major changes, you will be notified by email; a current schedule will always be available on the blackboard course website.

Schedule[†]

	Date	Topic	Readings	HW Due Date
Introduction to Operations Management				
1	7/9 M	Course Introduction: Introduction to Operations Management	Chapter 1 (In class: P0)	P0: student's info.
Process Analysis and Design				
2	7/10 T	Process Analysis: Process capacity and bottleneck analysis, Face game.	2.1-2.3; 3.1-3.3 (HW: P01, GP1)	
3	7/11 W	Process Analysis: Measures of process performance and Little's Law & Resource utilization	2.1-2.3; 3.1-3.3 (HW: P02)	
4	7/12 Th	Process Analysis, Kristen's Cookie Co. Case	Case: Kristen's Cookie Co.	
5	7/16 M	Process Analysis: labor costs estimation & Process Improvement	3.4-3.5, 4.1-4.3 (GP2: CRU)	P01, P02 GP1: Kristen's Cookie Co.
6	7/17 T	Process Design: Line balancing	4.4-4.5 (HW: P03)	
7	7/18 W	Process Design: Setup times and batching	6.1-6.3 (HW: P04)	
8	7/19 Th	Process Design: Economic Order Quantity	6.4-6.5 (HW: P05)	
Project Management				
9	7/23 M	Project Management: Introduction	(GP3: UHS) will be discussed at 7/25)	P03, P04, P05 GP2:CRU
10	7/24 T	Project Management: Crashing	(HW:06 <i>Discuss in Class</i>)	
Queueing Theory				
11	7/25 W	Queueing Theory: Introduction	7.1-7.6 (HW: P07)	
12	7/26 Th	Queueing Theory: Managing queueing systems Review for Midterm	7.7-7.11 (HW: P08)	
Midterm I				
13	7/30 M	Midterm I		
Queueing Theory(cont')				
14	7/31 T	Queueing Theory: Throughput losses	8.1-8.4 (HW: P09) GP04: The Goal	
Inventory Management				

15	8/1 W	Inventory Management: EOQ model	11.1-11.2 (HW: P10)	
16	8/2 Th	Inventory Management: Newsvendor Model	11.2-11.4 (HW: P11)	
17	8/6 M	Inventory Management: Newsvendor Performance Measures. Reducing mismatching costs through quick response	11.5-11.7, 12.1-12.4 (HW: P12, P13)	P09, P10, P11 GP04
The Goal (novel)				
18	8/7 T	The Goal	Book: The Goal GP05:Electronic Component Distributor)	
Supply Chain Management				
19	8/8 W	Supply Chain Management: Beer Game	Beer Game Instructions (handout will be given in class)	
20	8/9 Th	Supply Chain Management: Bullwhip Effect Review	16.1-16.2	P12, P13 GP05
	TBD	Final Exam	TBD	

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