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## OM 335H: OPERATIONS MANAGEMENT (Spring 09)

(Last updated on January 17, 2009)

#03900 : M-W 12:30am-2:00pm in CBA 4.304

#03905 : M-W 2:00pm-3:30pm in CBA 4.304

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Office Hours : Fridays 1-3pm\* Web : <http://courses.utexas.edu>

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Mailbox : CBA 5.202

Office hours : Tuesdays 12-2pm

\*I am also available by appointment but I will never be available on Monday and Wednesday morning.

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### COURSE DESCRIPTION:

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Operations Management (OM) is the cost effective management of resources to achieve organizational goals. OM focuses on the systematic planning, design, operation, control, and improvement of the processes which produce goods and deliver services. Managing operations is vital to every type of organization, for it is only through effective and efficient utilization of resources that an organization can be successful in the long run. This is especially true today, when we see that significant competitive advantages accrue to those firms that manage their operations effectively.

This course is the “foundations course” for our new major in Supply Chain Management. This class can also be useful to students with other majors because every business has an operations component.

Prerequisites: credit or registration for BA 324 (or credit for MIS 324) and credit or registration for STA 309.

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## COURSE OBJECTIVES:

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The main objectives of this course are:

- To provide you with an understanding of the crucial importance of operations management in today's business environment.
- To familiarize you with the basic concepts, techniques, methods and applications of operations management.
- To enhance your analytical skills and ability to uncover problems and opportunities for improvement in production and service processes.

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## COURSE MATERIALS:

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### 1. Required Readings

- Book: "The Goal" by Goldratt and Cox, 3<sup>rd</sup> Revised Edition. Great Barrington, MA: North River Press, Inc. 2004.  
ISBN: 978-0-07-352516-7
- Course Packet: Available at the GSB Copy Center. It contains a set of cases we will discuss in class.

### 2. Recommended Readings

- Textbook: "Matching Supply with Demand: An Introduction to Operations Management" by Cachon, G. and C. Terwiesch. New York, NY: McGraw-Hill / Irwin, 2nd edition (June 2008)

**3. 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 web site. If you need more information or tutorials, go to <http://www.utexas.edu/cc/blackboard>. If you have problems using blackboard, you can call the ITS help desk at 475-9400. You will find the following on Blackboard:

**(a) Course Notes:** Before each lecture, a pdf version of the slides will be posted under "Course Documents". Most of the time, these slides will be incomplete and you will be expected to fill in the blanks in class. Partially completed slides will be posted on Blackboard by the end of the day.

**(b) Assignments and Solutions:** The purpose of homework assignments is to provide learning reinforcement and promote class preparedness. You will find that the homework provides excellent learning feedback and is a confidence-building tool. The assignments will also help you prepare for the exams.

**(c) Practice exams:** Before every test, I will post at least one practice exam which will have the exact same number of questions and level of difficulty as the actual test.

(d) **Forums:** You are invited to further discuss topics brought up in class on the forum. You can also post any comments you have about the material and ask questions. Finally, you can post comments, criticisms and suggestions anonymously regarding the course.

(e) **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 (for exams) or the TAs (for assignments) as soon as possible in case of a discrepancy.

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## **PERFORMANCE EVALUATION:**

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Your grade will be assessed through homework assignments, exams and class participation. Below is a description of how the various types of assignments and tests contribute to your grade, as well as a description of each type of graded work.

	<b>Grade</b>
Midterm Exam I	20%
Midterm Exam II	20%
Final Exam	35%
Homework assignments	20%
Class Participation	5%
<b>Total</b>	<b>100%</b>

### **Exams**

Midterm Exam I will cover the materials from sessions 1-10 (Process Analysis). Midterm Exam II will cover the materials from sessions 12-19 (Project Management, Queuing Theory, Quality Management and The Goal). The Final Exam will be comprehensive but with a greater focus on the materials from sessions 22-30 (Inventory Management, Supply Chain Management, Revenue Management and Simulation).

Exams may contain true/false, multiple choice, short answer, essay, or analytical problem solving questions. The exams are closed book and closed notes. Do remember to bring your calculator. A formula sheet will be provided during the exam (a copy of the sheet will be put on Blackboard before the exam).

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 can request to take make-up exams.

A “grading scheme” file will be made available after the graded exams are returned, it will explain how the grade was calculated. Students must read this file before coming to the instructor to discuss their grade. Any concern regarding the grading of exams should be addressed directly to the instructor, no later than two weeks after the graded exam was returned in class.

## **Homework Assignments**

There are 12 homework assignments throughout the semester. You may do the homework assignments in teams but in this case, each student must hand in a separate handwritten copy and indicate the names of the people they worked with on the front page. If you do the assignment individually, then you may (and in fact are encouraged to) type it.

Homework assignments have to be turned in in class at the beginning of the class session listed on the schedule or sent by email to the instructor (not the TA), within 5 minutes of the starting time of the class session. They can also be put in the instructor's mailbox or under the instructor's office door but then you need to send an email to the instructor immediately to let her know that you have done so. The solutions to the homework will be provided at the end of the day when it is due; therefore no late homework assignments will be accepted.

When computing the average grade on homework assignments, the two lowest grades will be dropped. In other words, your final score will be the average of your 10 best scores. However you are strongly encouraged to hand in all 12 assignments as they constitute the best preparation for the exams.

Homework assignments will be graded by the TAs on a scale of 0 to 10. Points will be given for effort (especially for the case-based assignments), correctness of your answers and presentation. Any concern regarding the grading of homework assignments should be addressed directly to the TA and not to the instructor, no later than one week after the graded assignment was returned in class.

The students are asked to fill out the form at the end of this syllabus and submit it as part of homework 1 (for one point on homework 1).

## **Class Participation**

Regular attendance at all class meetings is expected. Attendance will be formally taken on the day of the Beer Game (see below) and will constitute 2% of your final grade.

Students are expected to prepare before class when a case is to be discussed. Participation in class, in the form of answering questions and/or commenting on the material is strongly encouraged. Participation on the Blackboard forum will also be counted towards the class participation grade, as long as the posted comments are relevant.

In each session, students are asked to pick up their name card and return it at the end of the session. Students who participated in class are asked to put their name card back on the instructor's desk, the others are asked to put it on the first row of student desks.

Students may not disturb classmates, surf the web, read newspapers or use their cell phones in class.

**Evening Class: *Beer Game***

An evening class will be held (tentatively) on *Wednesday April 22<sup>nd</sup> from 6:30 to 8:30pm*. “The Beer Game” is a popular, entertaining and educational activity; its purpose is to introduce students to one of most crucial issues in Supply Chain Management (unfortunately it has nothing to do with beer!). Please contact me immediately if there is a scheduling conflict.

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**SCHOLASTIC DISHONESTY**

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I take honesty and integrity very seriously. I will follow up on issues according to university rules. You can refer to the website at <http://deanofstudents.utexas.edu/sjs/> for more information. 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.

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**STUDENTS WITH SPECIAL NEEDS**

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

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**SCHEDULE**

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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.

	Date	Topic	Readings	Hws
1	Jan 21 W	Introduction to Operations Management		
2	Jan 26 M	Process Analysis: Process capacity and bottleneck analysis	3.1-3.2	
3	Jan 28 W	Process Analysis: Process capacity and bottleneck analysis (case analysis)	Case: Kristen's Cookie Co.	HW1
4	Feb 2 M	Process Analysis: Flow analysis	2.1-2.3; 3.4-3.5 ; 4.1	
5	Feb 4 W	Process Analysis: Line balancing	4.2-4.5	HW2
6	Feb 9 M	Process Analysis: The face game	2.6	
7	Feb 11 W	Process Analysis: Process design issues	Case: Benihana	HW3
8	Feb 16 M	Process Analysis: Setup times and batching	6.1-6.3	
9	Feb 18 W	Review session		HW4
10	Feb 23 M	Midterm I		
11	Feb 25 W	Project Management: Introduction	(slides only)	
12	Mar 2 M	Project Management: Crashing	(slides only)	
13	Mar 4 W	Queueing Theory: Introduction	7.1-7.2 ; 7.5-7.6	HW5
14	Mar 9 M	Queueing Theory: Managing queueing systems	7.7-7.11	
15	Mar 11 W	Queueing Theory: Application	Case: UHS	HW6
	Mar 16 M	[Spring Break]		
	Mar 21 W			
16	Mar 23 M	Quality Management: Statistical Process Control	9.1-9.5	
17	Mar 25 W	Quality Management: Toyota Production System	10.1-10.6 Case : Toyota	HW7
18	Mar 30 M	The Goal	Book: The Goal	HW8
19	Apr 1 W	Review session		
20	Apr 6 M	Midterm II		
21	Apr 8 W	Inventory Management: Economic Order Quantity	6.4-6.5	
22	Apr 13 M	Inventory Management: Newsvendor Model	11.1- 11.4 †	
23	Apr 15 W	Inventory Management: Newsvendor Model	11.5, 11.7	HW9
	Apr 20 M	<b>No class</b>		
24	Apr 22 W	Inventory Management: Order-up-to Model	13.1, 13.2, 13.5, 13.7	HW10
25	<b>Apr 22 W</b>	Supply Chain Management: Beer Game		
26	Apr 27 M	Supply Chain Management: The bullwhip effect	16.1-16.2	HW11
27	Apr 29 W	Revenue Management: Introduction	15.1-15.4	
28	May 4 M	Revenue Management: Application	Case: Cambridge SC	HW12
29	May 6 W	Review session		
30	TBA	Final exam		

† You may skip from the 2<sup>nd</sup> last paragraph of p224 to the 2<sup>nd</sup> last paragraph of page 230.

## OM 335H: Course contract (Spring 09)

Please **initial** every rule then sign and date.

I ..... have read and understood the Spring 2009 syllabus for OM335H. Specifically, I am aware of the following rules:

- I can only discuss my grade on a homework assignment with the TA for one week after the graded assignments have been returned in class.
- I can only discuss my grade on a midterm exam with the instructor for two weeks after the graded assignments have been returned in class. Before I do so, I need to take a look at the “grading scheme” file.
- On a day when a homework assignment is due, I have to hand it in within 5 minutes of the starting time of the lecture. If I put it in the instructor’s mailbox or under her door, I have to email her and the TA immediately after I do so. If I choose to email my homework I have to send it to the instructor (not the TA) before the start of the lecture.
- No late homework assignments will be accepted.
- Attendance to the beer game is required and worth 2% of my final grade.
- I should pick up my name card at the start of each lecture. If I participated during the class session, I should put it back at the end on the instructor’s desk (honor system).
- I have to let the instructor know well in advance if I cannot come to the beer game.
- I have to return this form back to the instructor by the start of the 3<sup>rd</sup> lecture with homework 1 (for one point).

Date and Signature