OM 335 (04205) Operations Management Fall 2013

(Last updated on August 20, 2013)

12:30 PM – 1:45 PM, Mondays and Wednesdays in UTC 4.132

Instructor: Hiroki Sano Mailbox: CBA 5.202

Office: CBA 3.332N; Office Hours: MW 4:00 PM – 5:30 PM or by appointment

E-mail: hiroki.sano@phd.mccombs.utexas.edu

Course Web Page: via Blackboard

COURSE DESCRIPTION:

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 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.

COURSE OBJECTIVES:

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.

COURSE MATERIALS:

1. Required Readings

• Course Packet: Available at the UT Copy Center (GSB 3.136). It contains a set of readings and cases we will discuss in class.

 Book: "The Goal" by Goldratt and Cox, 25th Anniversary Edition. Great Barrington, MA: North River Press, Inc. 2012. If you have an older edition, that will be fine for purposes of this class.

2. Recommended Readings

• Textbook: "Matching Supply with Demand: An Introduction to Operations Management" by Cachon and Terwiesch, 3rd Edition. New York, NY: McGraw-Hill / Irwin. 2012.

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 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 PowerPoint Presentation 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 within 24 hours of class. Completed slides will be posted after class.
- 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) Sample Problems: Sample problems for exams will be posted on the website.
- d) **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 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.

	Grade
Midterm Exam I	20%
Midterm Exam II	20%
Final Exam	35%
Individual Homework Assignments	12%
Group Homework Assignments	8%
Class Participation	5%
Total	100%

Extra credit work will not be given under any circumstance.

Exams

The two midterm exams will each concentrate upon the material taught during that section of the class. The final exam will be comprehensive but with a greater focus on the materials from the final section of the class.

Exams may contain true/false, multiple choice, short answer, or analytical problem solving questions. The exams are closed book and closed notes. Do remember to bring two (2) calculators as well as at least 2 pencils and a pen for writing short answers and essays. A formula sheet will be provided during 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 solution set will be made available after the graded exams are returned. 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 will be 11 individual homework assignments and 3 group homework assignments throughout the semester. Homework assignments have to be turned in in class <u>at the beginning</u> of the class session listed on the schedule. Although it is not encouraged, they can be sent by email as one PDF, DOC or DOCX file (no JPG or XLS please!) to the instructor by 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 <u>immediately</u> to let him 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 <u>no late homework assignments will be accepted.</u>

Homework assignments will be graded on a scale of 0 to 3 for each question. At the end of the semester, each assignment will be turned into a percentage prior to averaging to determine the semester homework grade. For example, 22 out of a maximum of 24 points for an assignment will be translated into a 91.6% prior to averaging. Points will be given for effort (especially for the case-based assignments), correctness and presentation. Any concern regarding the grading of homework assignments should be addressed directly to the instructor no later than one week after the graded assignment was returned in class. Do remember to check your returned homework assignments against the solution sets (which will be posted within a day of the homework's due date) because a high grade does not mean that the problems were completed correctly.

For each question in homework assignments, you should provide formulas, steps, or reasons to support your solution. Submissions with only the final solutions will not be given any credit. Submissions can be either typed or hand-written. However, please make sure that they are readable.

• <u>Individual Homework Assignments:</u> Although you have to turn in the individual homework assignments individually, you may do them in teams, and you are encouraged

to do so. In this case, however, each student must hand in his or her <u>own</u> solutions. In other words, you must not hand in an exact copy of other students' solutions. Moreover, each student must indicate the names of the people they worked with on the front page.

When computing the average grade on individual homework assignments, the lowest grade will be dropped. However, you are strongly encouraged to hand in all assignments as they constitute the best preparation for the exams.

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

• Group Homework Assignments: Group homework assignments contain more substantial problems which must be tackled by group. It is your responsibility to form your groups (in principle 4 or 5 members per group) and email a list of your group members to the instructor. Since the first group assignment is due on Wednesday, September 18, your groups should be formed as soon as possible. Not having a group cannot be a reason for late submission of group homework assignments.

For each group homework assignment, a single grade will be assigned to each group. Therefore, only one submission is required per group per assignment. For each submission, please remember to write the full names of all the group members who contribute to the answers. No credit will be given if the name is not shown on the submission.

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.

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, October 30 from 5:45 PM to 8:00 PM at *TBD*. "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.

SCHOLASTIC DISHONESTY:

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.

COURSE WEBSITES & STUDENT PRIVACY:

Password-protected class sites will be available for all accredited courses taught at The University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. In addition, class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on FERPA related issues see http://registrar.utexas.edu/students/records/ferpa/.

STUDENTS WITH SPECIAL NEEDS:

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 the instructor ahead of time so that special arrangements can be made in a timely fashion.

SCHEDULE:

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. Note. MSWD: the textbook; CP: the course packet; IH#: individual homework; GH#: group homework.

OM 335 Course Schedule

#	Day	Date	Торіс	Readings	H.W. Due
1	W	08/28	Introduction to Operations Management		
	M	09/02	NO CLA	ASS (Labor Day)	
			PROCESS ANALYS	SIS	
2	W	09/04	Process Flow Diagrams & Capacity	CP: "Process Fundamentals"; MSWD: 3.1-3.2	IH1
3	M	09/09	Process Metrics	CP: "Process Fundamentals"; MSWD: 2.1-2.2; 3.3-3.6	
4	W	09/11	Process Design Improvement	CP: "Types of Processes"; MSWD: 2.6; 4.1-4.5	
5	M	09/16	Process Scheduling & Bottlenecks	Case: "Kristen's Cookie Company"	IH2
6	W	09/18	Little's Law & Inventory	MSWD: 2.3-2.4	GH1
7	M	09/23	Batching	MSWD: 7.1-7.5	
8	W	09/25	Process Costing	CP: "Breakeven Analysis & Operating Leverage"	IH3
9	M	09/30	Process Design Application	Case: "Benihana of Tokyo"	IH4
10	W	10/02	Review session		
11	M	10/07	Midterm I		
			PROJECT & PROCESS	SRISK	
12	W	10/09	Project Management: Critical path analysis	CP: "Project Management" MSWD: 5.1-5.7	
13	M	10/14	Project Management: Managing project risk	CP: "Project Management"	
14	W	10/16	Process Risk: Waiting time analysis	CP: "Note on Managing Waiting lines"; MSWD: 2.3; 8.1-8.2; 8.4-8.6	IH5
15	M	10/21	Process Risk: Applying queueing principles	MSWD: 8.8-8.11	
16	W	10/23	Hedging Process Risk: EOQ & continuous review model	CP: "Inventory Control": ; MSWD: 7.6-7.8	IH6
17	M	10/28	Hedging Process Risk: Newsvendor inventory policy	CP: "Inventory Control"; MSWD: 12.1- 12.7†	GH2
18	W	10/30	Inventory Management Application	Case: "Sport Obermeyer, Ltd"	IH7

#	Day	Date	Topic	Readings	H.W. Due
19	W*	10/30	Process Risk: Supply Chain Mgt.—Beer game Evening Session: 5:45 pm	CP: "The Bullwhip Effect in Supply Chains"; MSWD: 17.1-17.2	
20	M	11/04	Process Risk: Supply Chain Mgt— Bullwhip effect	CP: "The Bullwhip Effect in Supply Chains"; MSWD: 17.1-17.2	IH8
21	W	11/06	Process Coordination: The Goal	CP: "Just-in-time Production Controlled by Kanban"; Book: The Goal	IH9
22	M	11/11	Review session		
23	W	11/13	Midterm II		
	1	I	REDUCING RIS	K	
24	M	11/18	Process Improvement: Quality targets	CP: "Statistical Quality Control for Process Development"; MSWD: 10.1-10.5	
25	W	11/20	Process Improvement: 6-Sigma Quality Tools	Case: "Quality Wireless (A) & (B)"	IH10
26	M	11/25	Process Improvement: Toyota Production System I	Case: "Toyota Motor Manufacturing"; MSWD: 11.1-11.10	IH11 GH3
	W	11/27	No class due to the evening session on 10/30.		
27	M	12/02	Process Improvement: Toyota Production System II	CP: "Decoding the DNA of the Toyota Production System"	
28	W	12/04	Review session		
29		TBD	Final exam		

[†] You may skip from the 2nd last paragraph of page 244 to the 2nd last paragraph of page 249. * Mandatory evening class. The current timing is tentative. Please stay tuned to class announcements.

OM 335 (04205): Course contract (Fall 2013)

Please	initial every rule then sign and date.
I	
syllabı	us for OM 335 (unique number: 04205). Specifically, I am aware of the following rules:
•	I can only discuss my grade on a homework assignment with the instructor 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 or—in the case of the final—after the last day of the semester. I realize that there are standard deduction policies, so any partial credit is unlikely to change.
•	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 his door, I have to email him immediately after I do so. If I choose to email my homework I have to send it to the instructor 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 understand extra credit work will not be given under any circumstance.
•	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 signed and initialed with homework 1 (for three points).
Date a	nd Signature
Signat	ure Date