

# BUDT 724 Fall 2004

## Operations Management

Course Instructor: Professor Cheryl Druehl  
Office: Van Munching 4318  
Telephone: Office: 405 - 9677  
Office Hours: TBA and by appointment  
Email: cdruehl@rsmith.umd.edu

Course Meeting Times: Monday and Wednesday, 11:00 am – 12:15 pm, VMH 1518

### Course Description

A firm has the opportunity to create competitive advantage through proficient management of its operations. To do so, the firm must first recognize and establish the strategic role of its operations within the organization. Then, at the more detailed operational level, the firm must execute effectively and efficiently. This course examines the strategic role that the operations function can play, and offers specific tools and techniques that the firm can use. This course covers concepts of operations management applied to both manufacturing and services, and can be divided into two broad areas. The first area includes operations strategy, process analysis and design, which include analysis of process flows and bottlenecks, waiting time models, and statistical quality control. The second is supply-chain management, which includes forecasting, JIT, linear programming, and advanced topics in inventory management.

### Course Text:

- Selected chapters available as an ebook at TBA: Or you may purchase the entire book (but more expensive). Chase, R., R. Jacobs, and N. Aquilano. *Operations Management for Competitive Advantage*. McGraw-Hill Irwin, 10<sup>th</sup> edition, 2004.
- Course pack with cases and web simulation material will be available at Xanedu.com.
- Goldratt, E, and J. Cox. *The Goal*. 2<sup>nd</sup> edition, North River Press, Great Barrington, MA, 1992, ISBN 0884270610. (Available at any online store or the bookstore; price is less than \$20.)
- Other readings will be posted on Blackboard.

### Class Procedure

It is expected that each student will have read the assigned material and thought about/tried the discussion questions/problems before he/she comes to class for the given day. The class can be described as a mix of lectures, cases, and computer simulations. Students are encouraged to discuss their own work experience when relevant to the class material, even during lectures. Please bring and use your name tents for each class.

There will be one written case assignment during the semester. Each team will turn in a three to five page write-up, 12 pt. font, 1½ spaced, with unlimited attachments (tables / charts), addressing the assignment questions for the case, at the *beginning* of the class in which the case is scheduled. Late work WILL NOT be accepted.

Additionally, each group will present their solution to one of the five cases. Details will be given in class.

There will be two assignments relative to a web-based computer simulation, *Littlefield Technologies*. You only need a web browser in your computer to complete this assignment. The fee of \$15 for the simulation has been included in the price of your course pack. In these assignments, a company and its production process is simulated. Each team can make some operational choices and see the results of these choices on the factory's performance. Each team should turn in a two to four

page report (12 pt, 1½ spaced) with unlimited attachments, describing and justifying their choices. Details of these assignments are in your course pack.

### Course Objectives

This course has several objectives. They are:

1. The student should understand the tradeoffs among different types of production/operations systems in terms of key characteristics, management tasks, organization and control, and impact on the strategy and direction of the firm.
2. The student should understand the strategic production/operations management issues and their relationship to the other functional areas of the firm.
3. The student will develop a basic competence with the tools and techniques used by operations professionals in managing operations and setting operations policy.

**Composition of final grade** — The final grade is based on your final number of points, out of a maximum of 1000 points, distributed as follows:

- Team cases and simulation write-ups: 350 points (All team assignments are equally weighted.)
- Group presentation: 100 points
- Class participation, especially important during case discussions: 50 points (Attendance and tardiness are included)
- Homework. There will be three homework assignments throughout the semester. These are individual assignments, however, collaboration is allowed. Each student needs to turn in his / her own assignment. Late homework WILL NOT be accepted. 150 points
- Midterm exam: 150 points
- Final exam: 200 points

### Academic Integrity

The University's *Code of Academic Integrity* is designed to ensure that the principles of academic honesty and integrity are upheld. All students are expected to adhere to this Code. The Smith School does not tolerate academic dishonesty. All acts of academic dishonesty will be dealt with in accordance with the provisions of this code. Please visit the following website for more information on the University's Code of Academic Integrity:

[http://www.inform.umd.edu/CampusInfo/Departments/JPO/AcInteg/code\\_acinteg2a.html](http://www.inform.umd.edu/CampusInfo/Departments/JPO/AcInteg/code_acinteg2a.html)

On each exam or assignment you will be asked to write out and sign the following pledge. "*I pledge on my honor that I have not given or received any unauthorized assistance on this exam/assignment.*" For practical purposes, the meaning of the code for this class is:

- Cheating on exams is not allowed.
- Case and simulation write-ups comprise original ideas from the team members.

### Special Needs

Any student with special needs should bring this to the attention of the instructor as soon as possible, but not later than the second week of class.

### Attendance

It is **expected** that each student be prepared for class including having read assigned material. In addition, it is **expected** that each student be in attendance at each class session, and on time. Absences and tardiness will negatively affect your class participation grade.

## Examinations

There will be two exams. The second exam is cumulative. Exams are closed computers, books and notes. Each student will be allowed one sheet, 8 ½ by 11. For the first exam, the first side may be used. For the final exam, both sides may be used.

### SCHEDULE – BUDT 724: Fall 2004

(Subject to change)

Class	Date	Topic	Readings	Assignment
<b>PART I – Operations Strategy, Process Analysis and Design</b>				
1	08/30	Introduction to operations management, Operations strategy	Ch. 1, Ch. 2	
2	09/01	Operations strategy Southwest Airlines, 1993 Case Discussion	Ch. 2, Southwest Airlines, 1993 (in packet)	Homepage Due, Form Groups
	09/06	Holiday		
3	09/08	Process and bottleneck analysis, <i>The Goal</i>	<i>The Goal</i> , Ch. 4	
4	09/13	Process design and planning – manufacturing	Ch. 5 (p. 165-168) Mass Customization Article (in packet)	
5	09/15	Process and bottleneck analysis – Quinte MRI Case Discussion	Quinte MRI Case (in packet)	Quinte MRI Case Due (Group)
6	09/20	Process design and planning – services	Ch. 6	
7	09/22	Strategic capacity management, Shouldice Hospital Case Discussion	Ch. 10	Shouldice Hospital Case (in book)
	09/22 5 PM	Start Littlefield Technologies Assignment I – Capacity Management	Littlefield Technologies Assignment I – Capacity Management(in packet)	
8	09/27	Waiting line (queuing) analysis	tn. 6	Homework 1 issued
9	09/29	Waiting line (queuing) analysis	tn.	
	09/29 5 PM	End Littlefield Technologies Assignment I – Capacity Management		
10	10/04	Southwest In Baltimore Case Discussion	Southwest In Baltimore (in packet) 6	Southwest in Baltimore Case Due (Group)
11	10/06	Waiting line (queuing) analysis	tn. 6	Littlefield Technologies Assignment I Due (Group)
	10/8 12:00 pm			Homework 1 due
12	10/11	Total quality management, Six Sigma, Statistical quality control	Ch. 7, tn. 7	
13	10/13	<b>MIDTERM EXAM covers thru Class 11 and HW 1</b>		
14	10/18	No Class		
<b>PART II – Production planning and supply chain management</b>				
15	10/20	Quality continued Six Sigma Case Discussion	The Six Sigma ‘Plus’ Quality Initiative at Honeywell (in packet)	Six Sigma Case Due (group) Homework 2 Issued
16	10/25	Forecasting: purposes, simple time series methods	Ch. 12 CIO Article (in packet)	
17	10/27	Trend and seasonality models, regression models	Ch. 12	
18	11/01	Inventory management: Quick review of EOQ and continuous review policies, Periodic review	Ch. 14	
19	11/03	Inventory management: Newsvendor	Ch. 14	

		model		
	11/03 5 PM	Start Littlefield Technologies Assignment II – Managing Customer Responsiveness	Littlefield Technologies Assignment II – Managing Customer Responsiveness (in packet)	
20	11/08	Managing inventory at the end of life: HP Case Discussion	HP Case (on BB)	HP Case Due (Group)
21	11/10	Aggregate planning, MRP, Advanced linear programming and applications	Supplement A	Homework 2 due Homework 3 issued
22	11/15	Advanced linear programming and applications	Supplement A	
23	11/17	Purchasing and supplier management	Turning the Supply Chain into a Revenue Chain, Buyer-Supplier Relationships (in packet)	
	11/17 5 PM	End Littlefield Technologies Assignment II – Managing Customer Responsiveness		
24	11/22	Auction simulation in E-Markets Lab, 3518 VMH		
25	11/24	Just in time, Lean manufacturing	Ch. 11	Littlefield Technologies Assignment II due (group)
26	11/29	Project management: Gantt charts, CPM	Ch. 3	
27	12/01	Project management: time/cost trade-off, probabilistic approaches	Ch. 3	
28	12/06	<i>The Goal</i> revisited	<i>The Goal</i>	Homework 3 due
29	12/08	Catch up / Review		
	12/15	<b>FINAL EXAM: Wednesday, December 15, 2004 8:00-10:00 AM</b>		