



Operations Management

<http://net1.ist.psu.edu/OM02/>

MBA 2002

School of Management

Hebei University of Technology



Course Description:

Operations management concerns the planning, analysis, design, control, and management of the processes that transform inputs (in the form of people, equipment, facilities, materials, etc.), into products and services desired by the customers. Under Today's global environment, the efficient design and management of the transformation processes that utilize these resources is important to developing and maintaining a competitive advantage.

This is an introductory operations management course, which was specially crafted for the MBA program at the Hebei University of Technology, China. The course will provide students with a comprehensive understanding on (1) the analysis and management of production/service systems, (2) the relationship and integration among operations and other functional areas inside an organization, (3) strategic operations management for competitive advantages, and (4) emerging technologies for operations management. Major topics to be covered include:

- Assessment of Current Environment and Problems
- Operations Management Framework
- Operational Strategy for Competitive Advantages
- Managing Cost Advantage
- Managing Quality Advantage
- Time-based Competition
- Managing Flexibility Advantage
- Product/Process Innovation
- Production/Marketing Integration
- Emerging Technologies.
- Future Trends.

A major component of the course will be a **team-based** project, focusing on the critical analysis of selected components in a production/service system that your team has chosen in advanced. Examples form both manufacturing and service organizations will be used to illustrate the concepts, techniques, and management of operations. Case studies and video clips will be used to show case the best operational practice.

Textbook and Videos:

- Stevenson, W. J., Production and Operations Management, 6th Edition, McGraw-Hill, 1999. (S)
- Denzler, D. R., *An Introduction to Operations Management: A Value Driven Approach*, Value Express, CA. <http://www.clubpom.com/myPOM.html> (Shell).
- Irwin/McGraw-Hill, *Video Clip Library in Operations Management*. (Videos). Click "[Here](#)" to see the list and description.

Reading Materials:

1. Berry, W. L., Hill, T., and Klompmaker, J. E., "Aligning Marketing and Manufacturing Strategies with the Market," *Int. J. of Prod. Res.*, Vol. 37, No. 16 (1999), pp. 3599-3618. **(BHK)**
2. Bounds, G., "Toyota Supplier Development," in Bounds, G., *Cases in Quality*, Irwin, 1996, pp. 3-25. **(Toyota – Case)**
3. Bounds, G., "Cadillac Simultaneous Engineering," in Bounds, G., *Cases in Quality*, Irwin, 1996, pp. 143-169. **(Cadillac – Case)**
4. Chu, C. H., "The Pervasive Elements of Total Quality Control," *Industrial Management*, September/October 1988. **(CH)**
5. Chu, C. H. and Tsai, M., "A comparison of three array-based clustering techniques for manufacturing cell formation," *Int. J. of Prod. Res.*, 1990, Vol. 28, No. 8, 1417-1433. **(CT)**
6. Kahn, K. B. and Mentzer, J. T., "Marketing Integration with Other Departments," *Journal of Business Research*, Vol. 42 (1998), pp. 53-62. **(KM)**
7. Olorunniwo, F. O. and Udo, G. J., "Cell Design Practices in U.S. Manufacturing Firms," *Production and Inventory management Journal*, Third Quarter (1996), pp. 37-33. **(OU)**
8. Rickard, N. E., "XEROX Puts The Customer First: A Powerful Competitive Strategy," in Bounds, G., *Cases in Quality*, Irwin, 1996, pp. 250-263. **(Xerox – Case)**

Course Requirements:

- **Three hands-on practices** will be assigned and graded. These exercises are team-based and need to find real world examples of applying operations management concepts, principles, and techniques to practice. You are encouraged to take picture of the actual examples (with permission of the owner or manager of the organization) for illustration and discussion. A report needs to be submitted from each team. Peer evaluation will be used to assess the contribution of each individual.
- A **team-based** project is required for the course. Details of the project will be announced separately.

Selected WWW Links:

- Dr. Chu's World Class Manufacturing Page. <http://net1.ist.psu.edu/chu/wcmm.htm>
- Dr. Chu's 5S Page. <http://net1.ist.psu.edu/chu/wcm/5s/5s.htm>
- Dr. Chu's Visual Control Page. <http://net1.ist.psu.edu/chu/wcm/vc/vc.htm>
- Dr. Chu's Setup Reduction Page. <http://net1.ist.psu.edu/chu/wcm/smed.htm>
- Dr. Chu's Supply Chain Management Resources. <http://net1.ist.psu.edu/chu/course/scm.htm>
- Dr. Grout's Poka-Yoke Page. <http://campbell.berry.edu/pokayoke/>
- Crazy About Constraints (Theory of Constraints). <http://www.rogo.com/cac/>
- Juran Institute. <http://www.juran.com/>
- Continuous Quality Improvement at Clemson University. <http://deming.eng.clemson.edu/>
- ISO-Easy. <http://www.isoeasy.org/>
- Operations Management Center Page. <http://www.mhhe.com/business/opsci/pom/>

Tentative Schedule:

This schedule is **tentative** and will be revised if needed, especially on the availability of lecture notes.

Session	Topics	Readings / Notes ⁺	Video / Practice
1 (5/23)	State of the Art Review	Syllabus; Overview	MP; SS
	Current Environment and Problems	Assessment	BP
	Operations Management Systems	S1; POM	
	Team Project Discussion	Project	
2 (5/23)	Operations Strategy for Advantages	S2	VD
	Conceptual Revolution	Concept; Strategy	
3 (5/24)	Managing Cost Advantage		
	Lean Production	Lean	LP; OM
	Waste Elimination	Waste; S7 (1169-174)	SU
4 (5/24)	5S/Visual Control	5S; VC	Practice 1
	<i>Toyota Case Study</i>	<i>Toyota</i>	
5 (5/27)	Managing Quality Advantage		
	Total Quality Management (TQM)	CH; S9; S11; TQM	MQ; DQ
	Statistical Quality Control (SPC)	S10; SPC	SPC
6 (5/27)	Quality Function Deployment	QFD	QD
	Poka Yoke – Foolproof	Poka	Practice 2
7 (5/28)	Time-Based Competition		
	Just-in-time production	JIT; S15	JI; TS
	SMED Setup Reduction	Setup; SMED; S7 (174-177)	SU
8 (5/29)	Managing Flexibility Advantage		
	GT/Cellular Manufacturing	OU; CM; S6 (144-146)	
	CF / U Line Design	CT; S6 (142-144); CM_Ex	Practice 3
9 (5/29)	Products/Processes Innovation	S4	
	<i>Xerox Case Study</i>	<i>Xerox</i>	
10 (6/3)	Production/Marketing Integration	KM; BHK	
	Simultaneous Engineering	PPI	TPD
	Business Process Reengineering	Shell4; Shell5 (1-9); BPR	RE
11 (6/4)	Emerging Technologies I		
	MRP/ERP	MRP; S14; ERP	
12 (6/4)	TOC	TOC; TOC_Ex	
	<i>Cadillac Case Study</i>	<i>Cadillac</i>	
13 (6/5)	Emerging Technologies II		
	Supply Chain Management	SCM; S16	
	Environmental Issues	ERONote; ECM	
14 (6/5)	Team Project Presentation	(5 Teams)	
15 (6/6)	Team Project Presentation	(5 Teams)	Project Due

+ Notes are in **dark red color**; * Pages of that Chapter or Shell.