

LOM 5320- Introduction to Operations Management**Professional MBA, Fall 2011. Prerequisites: IS6800, LOM5300**

Text: Operations Management by Heizer/Render, 9E with POM CD, Course resource CD

Tentative grading:

- 80% Five or six Case study/problem sets/quizzes
- 20% Application Research Report presented on last day of class



"When you try to pull just one thing out of the Universe, you find it attached to everything else."

--John Muir

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Onsite #1 -Saturday, September 10

Introduction & Overview of tools

Making Quality Decisions

Decision models: risk avoidance vs. risk management

module A

Decision trees and value of information

Onsite #2 -Friday, September 30

Joint events-reliability and redundancy

Chapter 17

Game theory, the cooperation dilemma

The Evolution of Cooperation

TQM-Statistical Process Control, Control Charts in EXCEL

Chapter 6, Chapter 6S

6-Sigma and Lean Operations

The Machine that Changed the World

Facilities /Capacity and Location Planning:

Capacity & Cost Structures

Chapter 7S

"Location" Break even Analysis

Chapter 8

Spreadsheet Budgeting

(NIB)

Onsite #3 -Saturday, October 1***Optimization models***

Linear Optimization Models Geometric with POM-Win

Module B

Computer Solutions using Excel Solver

Packet+ Videotutorials

Transportation Model--Greedy solutions and opportunity cost

EXCEL Solver solution of the Transportation Model

Job Matching -Assignment Method-Excel Solver

Chapter 15

Onsite #4 -Friday, October 28***Microscheduling/job sequencing:***

Queuing: Infinite Source (POM-Win)

Module D

Simulation modeling

Module F, Extend software

Process Priority Rules-Excel

Chapter 15

Scheduling & Inventory Management

Aggregate Planning - scheduling

Chapter 13

EOQ Model & --Economic Run Size (ERS)

Chapter 12

Quantity discounts Service Level, Safety Stock, Reorder Point.

self study

Make vs. Buy & Just in Time Philosophy (Lean Operations)

Chapter 16

Onsite #5 -Saturday, October 29

Project management, CPM & PERT

Chapter 3 -Videos

Learning Curves

Module E-videos

Onsite #6, Friday, November 18, Application Project reports, Presentations

Project reports and presentations-Application Project

Projects may be either team or individual. If a Team project, responsibility for separate sections or aspects of the project should be identified clearly. A project should consist of application of tools studied in this course to some real-life case related to work, volunteer activity, or selected observed situation in everyday life.

A project should involve quantitative analysis and work proportional to the number of participants. The presentation should be concise with 30 minutes or less per aspect/individual. Written reports are due by the last class session. Written reports should be broken into sections with identified authors for each part, as the same grade may not be assigned to all participants of a given project.

Suggested information for Application Report:

Introduction:

- Name of organization , contact information if applicable
- Background on the organization and nature of the problem
- Brief Abstract on the Results

Body

- Areas Addressed in This Project
- Purpose, Brief Description of Activities
- Observations (Data)
- Application of the model /Analysis

Conclusions

- Progress/Recommendations / Recommendations for Future Work

Keep it simple. Reports should be on the order of several pages (including data and analyses) per aspect/participant. They must be neat and legible, though graphics need not be elaborate. Reports may consist of, *e.g.*, powerpoint printouts if there is enough added description to make it understandable on its own. Participants' sections of each report will receive grades based on criteria such as novelty, clarity, correct application, significance/utility of the result. Reports will not be returned, so please keep a copy for yourself, and specify if any of the information is to be treated as confidential.

The Free Rider Problem on Team Projects--A Prisoner's Dilemma Model

A relevant example from the Course, related to team project reports:

Joe and Sally are working together on a team project for a management course. If either one works hard on the project, they will both get an A in the course. If neither does any work, they will both fail this course, but they could do better in other courses by spending less time on this one. There is a temptation to let the other person do all the work on the project and spend more time getting better grades in the other courses. If one person does all the work, then the effort required would put that person behind in other courses. Taking all this into account, here is a table showing probable semester grade point averages for different combinations of strategies. Joe's are in the upper right and he controls rows. Sally's are in the lower left, and she controls columns. What is most likely to happen? What would be better, and how can you get it? Would you rather have an A or a C+? Understanding this phenomenon is the key to achieving cooperation that is the central requirement for Total Quality Management, Just-in-Time inventory and Lean Production strategies..

<i>Semester average for Joe and Sally depending on effort distribution</i>				
Joe / / Sally	Let Joe do it	moderate effort	work hard on project	Sally's best average
let Sally do it	2.47 / / 2.47	3.33 / / 2.33	3.67 / / 2.33	
moderate effort	2.33 / / 3.33	3.0 / / 3.0	3.33 / / 2.67	
work hard on project	2.33 / / 3.67	2.67 / / 3.33	3.55 / / 3.55	
Joe's best				