

MGMT 675

Operations Management

Fall 2006.

INSTRUCTOR: José H. Dulá,
Associate Professor

INSTRUCTOR'S EMAIL: jdula@vcu.edu

INSTRUCTOR'S WEB PAGE: www.people.vcu.edu/~jdula

OFFICE HOURS: Tuesday: 3:30-5:00, Thursday: 12:30-2:00pm
Room 4149
(Other times available by appointment. Use email!)

ADDRESS: Department of Management
School of Business
1015 Floyd Avenue, P.O. Box 844000
Richmond, VA 23284-4000

COURSE WEB PAGE: blackboard.vcu.edu

TEXTBOOK: Factory Physics 2nd ed.
by Wallace J. Hopp and Mark L. Spearman
Irwin McGraw-Hill, New York 2001.
ISBN 0-256-24795-1

OTHER READINGS: Classic Readings in Operations Management
by Victor E. Sower, Jaideep Motwani, and Michael J. Savoie
The Dryden Press (ISBN 0-03-098054-2 Out-of-Print)
Duxbury Press (ISBN 0534-510-85 X)

The Principles of Scientific Management
by Frederick Winslow Taylor
Dover Publications, Inc. New York, 1998 ISBN 0-486-29988-0
(The book is free on the web. Try: www.eldritchpress.org/fwt)

The Goal: A Process of Ongoing Improvement, 2nd Revised Ed.
by E.M. Goldratt and J. Cox
North River Press, 1992 ISBN 0-486-29988-0)

The Elements of Style
by W. Strunk and E.B. White
(An old version of this book is on the web: <http://www.bartleby.com/141/>)

INTRODUCTORY STATEMENT.

The objective of the course is to develop an understanding of complex and sophisticated manufacturing and service operations. The course is designed to broaden the perspectives of the MBA students. The guiding philosophy for the course is based on three ideas: that effective management is based on scientific principles; that one cannot manage what is not measured, and that successful managers understand the past, present, and future of scientific management. The course relies on the study of the works of the great thinkers from F. Taylor and F. Gilbreth through E. Deming and J. Juran and up to W. Skinner. The course also deals with current issues in managing operations such as the role of quality in competitiveness and the impact of globalization.

Upon the completion of the course you should be able to describe the factors involved in key operations decisions and to apply appropriately techniques that provide insight and structure for management decision making.

GRADING.

The grade for the course will be determined by the score on the following items:

1. Graded Submissions (25%). There will be two types of graded submissions: essays and quizzes. There will be three essays. Submission will be via email and must be time-stamped before the class starts when they are due. Please read a separate document for how these will be graded. Quizzes will be randomly given at the beginning of some of the lectures. They will be designed to encourage reading the assigned material before the class when its discussion is scheduled. They will consist of multiple choice, "fill-in-the-blank" and "true or false" questions. The average of quizzes will have the weight of one essay.
2. Two Midterms (50%). Midterms will be in class and will involve solving problems.
3. Term Project (25%). There will be a final group term project reporting on an OM study involving an actual company. The topic and scope of the paper will be determined on an group basis. The project will culminate with a formal presentation of the study in class.

Grades will be assigned using the following scale:

A	85 or more points
B	70 or more but less than 85 points
C	60 or more but less than 70 points

Class participation. Class participation is important in this course. It is difficult for the instructor to sustain two and a half hours of discussion without the students' enthusiastic involvement. Therefore, the instructor reserves the right to use his perception of the students' interest, involvement in class discussions to improve final grades.

MGMT 675

Syllabus

Operations Management

Fall 2006

CLASS SYLLABUS

Our objective is to try to follow the following schedule. This plan is tentative and we can expect some deviations and adjustments. Use this syllabus for general guidelines regarding the course.

Week 1 Tuesday August 29.

- Administrative announcements and introduction.
- Chapter 0: *Factory Physics?* and Chapter 1: *The Lessons of History*.

HW: Read Articles by Gantt and Gilbreth in "Classic Readings in Operations Management".

Week 2 Tuesday September 5.

- Class discussion of Gantt and Gilbreth.
- Chapter 2: *Inventory Control from EOQ to ROP*: EOQ.

HW: Read *The Principles of Scientific Management* by Taylor.

HW: Problems Chapter 2: p.105 3, 4, 5, 6.

Week 3 Tuesday September 12.

- Class discussion of Taylor.
- Chapter 2: *Inventory Control from EOQ to ROP*.: Finish EOQ, Begin Dynamic Lot Sizing.

HW: First Essay: due 9/26

HW: Two papers by Skinner.

HW: Problems Chapter 2: p.106: 8, 9.

Week 4 Tuesday September 19.

- Class discussion of Skinner.
- Chapter 2: *Inventory Control from EOQ to ROP*.: Finish Dynamic Lot Sizing.

HW: Read Chapter 4: *The JIT Revolution* and Chapter 5: *What Went Wrong*.

HW:

Week 5 Tuesday September 26.

- Chapter 3: *The MRP Crusade*. (Reverse order of lecture: Do quantitative material first).
- Class discussion Chapter 4 *The JIT Revolution* and Chapter 5 *What Went Wrong*.

HW: Second Essay. Due 10/10.

HW: Reading assignment: *The Goal* by Eliyahu M. Goldratt and Jeff Cox

HW: Problems Chapter 3: 7, 8, 9, 10.

Week 6 Tuesday October 3.

- Class discussion *The Goal*
- Chapter 16: *Aggregate and Workforce Planning*. Quantitative material: LP.

HW: Read Chapter 17: *Supply Chain Management*, and articles by T.Davis (Sloan Mgmt. Rev 93) and Arntzen, et al. (Interfaces 95)

HW: Problems Chapter 16: 1, 3, 4.

Week 7 Tuesday October 10.

- Class discussion Chapter 17: *Supply Chain Management* and Articles.
- Chapter 16: *Aggregate and Workforce Planning*. Quantitative material: LP.

HW: Problems Chapter 16: 7, 8, 9.

Week 8 Tuesday October 17.

- Plant Trip.

HW: Read “Excerpts from *Economic control of quality of manufactured product*” and “Excerpts from *Statistical Method from the Viewpoint of Quality Control*” by W.A. Shewhart, “Improvement of quality and productivity through action by management” by W.E. Deming, and “The Quality Trilogy” by J.M. Juran.

Week 8 Tuesday October 24.

- First Midterm.
 - Groups for term projects and topics due.
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Week 9 Tuesday October 31.

- Discuss papers by Shewhart, Deming, and Juran.
- Background on probability and statistics.
- Chapter 2 *Inventory Control from EOQ to ROP*: Section 2.4.

HW: Assign Third Essay. Due 11/14.

HW: Read “The evolution of life on the earth” and “The median isn’t the message” by Stephen Jay Gould.

HW: Read Chapter 8 *Variability Basics*.

HW: Problems Chapter 2: 10, 11, 12.

Week 10 Tuesday November 7.

- Class discussion: Gould’s articles, re: probability and statistics.
- Chapter 8.

HW: Read Chapter 8 *Variability Basics*.

HW: Problems Chapter 8: TBA

Week 11 Tuesday November 14. (Instructor out of town.)

- Discuss Chapter 8 *Variability Basics*.
- Chapter 8: Quantitative material.

HW: Problems Chapter 8 (queueing) TBA.

Week 12 Tuesday November 21.

- Group Presentations.

HW: Prepare Presentation.

Week 13 Tuesday November 28.

- Group Presentations.

HW: Prepare Presentation.

Week 14 Tuesday December 5.

- Plant Trip.

Week 16 Tuesday December 12.

- Final.
