

## BA 3352: Production Management - Syllabus

- Instructor: Metin Çakanyıldırım, metin@utdallas.edu , SM3.408.  
Office hours: 4-6 pm on M and W at SM3.408.
- Teaching Assistant: Gokcen Arkali , gxa023000@utdallas.edu , SM3.215.  
Office hours: 4-6 pm on Tu at SM3.215.  
3-5 pm only on Sundays preceding each Wednesday to which a HW is due.
- Course Objective: Production/operations management involves the integration of numerous activities and processes to produce products and services in a highly competitive global environment. Many companies have experienced a decline in market share as a result of their inability to compete on the basis of product design, cost or quality. Most now agree that world class performance in operations, i.e., in product design, manufacturing, engineering and distribution, is essential for competitive success and long term survival. This course considers the operations from a managerial perspective. We will consider key performance measures of operations (productivity, quality and response time) as well as important concepts for improving the performance of operations along these dimensions. At the end of the course students will have a fair understanding of the role Production/Operations Management plays in business processes. Emphasis is given both to familiarization of various production processes and service systems, and to quantitative analysis of problems arising in the management of operations.
- Textbook: Operations Management by William J. Stevenson. Eighth Edition, Irwin / McGraw-Hill, 2005.
- Internet: Course web page can be reached from [www.utdallas.edu/~metin/teaching.html](http://www.utdallas.edu/~metin/teaching.html) with the password ..... . WebCT will be used only for posting the grades.
- Homeworks: There will be about 5 homeworks. You may discuss homework problems with others, but you must write up by yourself with the full understanding of what you write. Students handing in identical assignments will be violating university regulations (Handbook of Operating Procedures Title V Chapter 49) and will not receive credit! Late homeworks are not allowed unless you negotiate with **the TA** at least one day in advance. Remember that extensions delay the posting of solutions so be considerate of your class mates when asking for extensions. Each homework is going to be submitted to the TA or the instructor by 7pm on the day its due.
- Midterms: In class, on days February 9, March 16 and April 20.
- Exam Style: A big portion of the exams will be multiple choice, the remaining will perhaps have essay or small computation type questions.
- For Exams: Bring a pencil, a good eraser and a scantron form 882-E. Do not mark two or more choices in multiple choice questions. Erase your markings properly when changing your choice. Cellular communication device (laptop, palm pilot, calculators with antennas) cannot be used during exams.
- Grading: Your lowest homework grade will be dropped. 5% class participation, 20% homeworks, 25% for each midterm. In addition, there will be two unannounced quizzes with 2% weight each. Note the quizzes are bonus so there will not be any makeups for the quizzes.
- Objections to grades: You can object to your (homework or midterm) grades only **within 2 weeks** after the grades are announced. Late objections will not be considered.

## TENTATIVE COURSE TIMELINE

1. Week - Jan12. Introduction.
  - (a) Ch1: Scope of Operations Management.
  - (b) Ch2: Strategy and Productivity.
2. Week - Jan19. Ch3: Forecasting.

### SYSTEM DESIGN FOR LONG TERM

3. Week - Jan26. Ch4: Product design.
4. Week - Feb02. Ch5: Capacity planning.
5. Week - Feb09. **Midterm 1.**
6. Week - Feb16. Ch6: Process selection and facility layout.

### OPERATIONS MANAGEMENT FOR INTERMEDIATE TERM

7. Week - Feb23. Ch9: Management of quality.
8. Week - Mar02. Ch10: Quality control.
9. Week - Mar09. Spring Break - No class.
10. Week - Mar16. **Midterm 2.**
11. Week - Mar23. Ch11: Inventory management.
12. Week - Mar30. Ch12: Aggregate planning.

### OPERATIONS MANAGEMENT FOR SHORTER TERM

13. Week - Apr06: MRP, ERP, JIT.
  - (a) Ch13: MRP and ERP.
  - (b) Ch14: JIT and lean operations.
14. Week - Apr13. Ch15: Scheduling.
15. Week - Apr20: **Midterm 3.**

## PREREQUISITES: STAT 3360, MATH 1326 and MATH 2333

Stat 3360 course covers:

- Data Collection, Analysis & Presentation: Ch.1 - What Is Statistics? Ch.2 - Graphical Descriptive Techniques. Ch.4 - Numerical Descriptive Measures. Ch.5 - Data Collection & Sampling.
- Probability & Probability Distributions: Ch.6 - Probability and Discrete Probability Distributions: Permutations, Combinations, Repetitions. Ch.7 - Continuous Probability Distribution. Ch.8 - Sampling Distributions
- Estimation & Hypothesis testing: Ch.9 - Introduction to Estimation. Ch.10 - Introduction to Hypothesis Testing. Ch.16 - Simple Linear Regression and Correlation.

Chapter numbers are with respect to the Stat 3360 textbook: Keller/Warrack STATISTICS for Management and Economics, Abbreviated Fourth Addition.

Sample questions:

1. What is the sample mean of the population of numbers  $\{-1, 1\}$ ?  
a) -1      b) 0      c) 1      d) 2
2. What is the sample variance of the population of numbers  $\{-1, 1\}$ ?  
a) -1      b) 0      c) 1      d) 2
3. Is the variance of the population  $\{-1, 1\}$  larger than the variance of the population  $\{-2, 2\}$ ?  
a) Yes      b) No      c) Cannot be told
4. If a random variable has a variance of 16, what is its standard deviation?  
a) -2      b) 0      c) 2      d) 4
5. If two random variables are independent, what is their covariance?  
a) -1      b) 0      c) 1      d) Cannot be told
6. What is  $\ln e^3$  where  $e$  is the base for the natural logarithm?  
a) 1      b) 2      c) 3      d) 4
7. How many different basketball teams of 5 players can be assembled from a pool of 7 players?  
a) 5      b) 7      c) 35      d) 21
8. At what point the line  $y = 3x - 6$  crosses the  $x$ -axis?  
a) 2      b) 0      c) 3      d) (2,0)
9. Is binomial distribution a discrete or a continuous probability distribution?  
a) Discrete      b) Continuous      c) Both      d) Neither
10. Suppose that  $X_1$  and  $X_2$  are two independent normal random variables with means of 2 and 4, and standard deviations of 1 and 2. What is the distribution of  $X_1 + X_2$ ?  
a) 6      b) Normal      c) Normal with mean 6, variance 5      d) Normal with mean 6, variance 3
11. Poisson distribution can be used to represent  
a) The length of a stick      b) My weight      c) Number of students in my class  
d) Duration of a BA 3352 lecture
12. The sum of numbers  $1+4+9+16+25+36$  can also be written as  
a)  $\sum i^2$       b)  $\sum_{i=1}^{36} i$       c)  $\sum_{i=1}^6 i^2$       d)  $\sum_{i=1}^{36} i^2$       e)  $\sum_{i=1}^6 i$
13. In mathematics,  $\pi$  is a constant whose value is approximately  
a) 2      b) 3      c) 4      d) 5
14. What is  $1/2 + 1/3 + 1/6$ ?  
a)  $1/11$       b) 11      c) 0      d) 1      e)  $2/11$
15. For two distinct numbers  $x, y$ , what is  $(x^2 - y^2)/(x - y)$ ?  
a) 0      b) 1      c)  $x - y$       d)  $x + y$       e)  $x^3 - y^3$

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*Tear From Here*

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NAME:

1.      2.      3.      4.      5.      6.      7.      8.      9.      10.      11.      12.      13.      14.      15.