OPRE 6302 Operations Management – Syllabus

• Instructor: Metin Çakanyıldırım, metin@utdallas.edu, SM3.408.
  Lecture hours: 9-10:15 am on Tu-Th at SM2.117.
  Office hours: 4:00-5:00 pm on M and Tu at SM3.408.

• Teaching Assistant: Di Miao, dxm061000@utdallas.edu, SM3.406.
  Office hours: 5:00-6:00 pm on M and W at SM3.406.

• Operations Management (OM): The management of the efficient transformation of inputs into outputs to suitably satisfy customers. Inputs are materials, labor, capital and management. Outputs are products or services, which customers want and often pay for. The course provides an introduction to the operations and the related management concepts. The level of discussion varies from strategical to daily control of business processes.

• Course Objective:
  1. To discuss a range of operation settings
     (a) To explain the role of operations, and their interaction with the other activities of a firm: finance, marketing, organization, corporate governance, etc.
     (b) To understand how operations affect people and society.
     (c) To appreciate the challenge, excitement and creativity associated with managing operations.
  2. To analyze operation processes from various perspectives such as efficiency, responsiveness, quality and productivity. To learn basic but useful analytical skills and tools in studying operations in specific and other activities (marketing, finance, etc.) in general.

• Prerequisites: Elementary knowledge of calculus and probability, or consent of the instructor.

• Related courses:
  – OPRE 6366: Supply Chain Management by Prof. Metin Çakanyıldırım in Falls and Springs.
  – OPRE 6363: Inventory Management by Prof. Holly Lutze in Springs.
  – OPRE 6370: Logistics and Distribution by Prof. Ehad Sabri in Falls.
  – OPRE 6335: Risk and Decision Analysis by Prof. Alain Bensoussan in Springs.
  – OPRE 6364: QC: Lean Six Sigma by Prof. Divakar Rajamani in Springs.

• Related concentrations and degree:
  – For MBA students: Operations Management Concentration.
  – For Master students: Supply Chain Management Concentration; see info-sheet at www.utdallas.edu/~metin/schainmore.pdf.
  – Supply Chain Management Master Degree


• Case package is available at the UTD bookstore. It contains the required cases:
  – CRU Computer Rentals, Northwestern Case available as HBS 9-KEL-017.
  – Hewlett-Packard Co.: Desk Jet Printer Supply Chain (A), Stanford Case available as HBS GS3A.
• Supplementary books:


• Portal for OM: PortOM (course web page) can be reached via [www.utdallas.edu/~metin/teaching.html](http://www.utdallas.edu/~metin/teaching.html) with the course password .................. .

• Name cards: Every body is expected to place a name card on his/her desk.

• Grading:

  – 5% for Class attendance and contribution to discussion. Especially contribution to case discussion is important. Ever body must prepare each case in advance. Please expect to be called upon to discuss the case.

  – 30% * 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 and will not receive credit! Late homeworks are not allowed unless you negotiate with the TA at least one day in advance. Your minimum homework grade will be dropped from consideration.

  – 10% * Case report: Each student chooses 1 case out of 3 cases and writes a report of at most 5 pages. In your report, summarize the case in 1 paragraph, explain the major problem, propose and defend your solutions to the major problem. CRU Computer Rentals and Hewlett-Packard Co. cases require computations to substantiate recommendations. In your report, you are expected to use analytical arguments with a clearly identifiable cause-effect relationship(s).

  – 25% * Quiz: March 20 in-class

  – 30% * Final: May 1 in-class.

Overall grades will be curved by considering the current class average and previous class averages.
TENTATIVE COURSE TIMELINE

INTRODUCTION
01. Lec Jan08. Ch1: Introduction.

WORK FLOW MANAGEMENT
05. Lec Jan22. Ch5: Batching: Set up Times and Economic Order Quantity.
06. Lec Jan24. ...... Epilogue of Flow Analysis.
07. Lec Jan29. ...... Case: CRU Computer Rental.

ANALYTICAL DECISION MAKING: FORMULATIONS
08. Lec Jan31. ...... Introduction to Linear Programming Formulations. Objectives, Constraints.
09. Lec Feb05. ...... Linear Programming Formulations. Simple examples.

SERVICE MANAGEMENT: QUEUES

QUALITY MANAGEMENT
18. Lec Mar06. ...... Epilogue of Quality Management.
20. Lec Mar20. ...... In-class quiz.

INVENTORY MANAGEMENT
23. Lec Apr01. Ch9: Betting on the Uncertain Demand. The Newsvendor Model.
24. Lec Apr03. Ch9: Betting on the Uncertain Demand. The Newsvendor Model.
25. Lec Apr08. Ch11: Service Levels and Lead Times. Repeating the Newsvendor Model.
26. Lec Apr10. ...... Epilogue of Inventory Management.

REVENUE MANAGEMENT
29. Lec Apr22. ...... Epilogue of Revenue Management.

Cumulative Final
31. Lec May01. ...... In-class final.
• We are skipping two important chapters in the textbook:
  – Ch12: Risk-pooling strategies. Suggested courses to cover this: OPRE 6363 and OPRE 6335.
  – Ch14: Supply chain coordination. Suggested course to cover this: OPRE 6366.
• The textbook overlooks at transportation operations. Suggested course to cover this: OPRE 6370.
• Being an introductory level course, this course does not discuss the software used to manage real life operations. Suggested courses to cover such software: OPRE 6368 and SAP courses offered by informations systems area.
• Two SOM centers of interest are the Center for Intelligent Supply Networks (C4ISN) and the International Center for Decision and Risk Analysis (ICDRIA). Centers sponsor activities that complement the classroom learning. Interaction with the Advisory Boards of the centers, participation in a capstone project and student internships provide students the opportunity to network with industry leaders and gain practical experience. Students are also exposed to the current operations challenges and trends by listening to guest speakers and by visiting manufacturing and service organizations running effective operations. The web addresses for the centers are som.utdallas.edu/c4isn and som.utdallas.edu/icdria.
• Career Center: The SOM Career Center provides the following services: Career Counseling, Resume Assistance, Interview Assistance, Job Search Assistance, Career Resource Library, Web Resume Database, On Campus Recruiting, Active Internship Program. The SOM center is located on the second floor of SOM. The UTD career center is at utdallas.edu/student/career.