2012

MGMT 601-05B Operational Analysis

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Class Time: Tuesday and Wednesday (3 pm to 6 pm), and by appointment  
Class Location: Smith XX

PURPOSE OF THE COURSE

The purpose of this introductory course is to provide MBA students with a thorough introduction to the concepts and skills needed to understand the role of operations in the success of an organization, to lead efforts and make appropriate decisions in the operations functions of their organizations, and to analyze and improve various business processes. This course specifically highlights and aims at improving your analytical working skills.

INTRODUCTION TO OPERATIONS MANAGEMENT

Operations Management refers to the systematic design, direction, and control of processes that transform inputs into services and products for external, as well as internal customers. The course is one of the few MBA core courses required by AACSB. We will introduce various concepts and decision-making models related to issues such as operations strategy, process improvement, quality control, inventory, and supply chain management. These topics are widely considered “core” in Operations Management courses.

COURSE MATERIALS


Illustrative problems and solutions will be covered in class. Student teams are expected to solve assigned problems in each class. Instructor will explain and relate the underlying concepts and theories. The expectation is that the students will become familiar with the smorgasbord of tools and techniques used in operations management. Key learning will be being able to identify the operational contexts in which the tools are used in the broader context of supply chain management that extends beyond a firm.
COURSE OBJECTIVES

- Describe and apply the measurable ways in which operations contribute to competitive advantage. Specifically, nine competitive priorities will be identified.
- Describe and apply a broad array of tools and techniques utilized in operational analyses, specifically, Linear Programming; Simulation; Queueing Models and Inventory Models.
- Describe and apply a broad array of tools and techniques utilized in managing supply chains that link the internal processes of a firm to those of customers and suppliers.

WILLIAMS COLLEGE OF BUSINESS (WCB) MISSION STATEMENT
“We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition.”

HOW THIS COURSE RELATES TO THE WCB MISSION
Operations management is a vital topic that every business student needs to understand because it is at the heart of the creation of wealth for businesses and the improvement in the living standard of citizens of all countries. Operations managers are responsible for the production of products and services in an ethical and environmentally responsible way while being responsive to the market. While it is important to be efficient and capable with respect to internal processes of a firm, it is critical for organizations to be able to link those internal processes to those of their customers and their suppliers to provide a competitive supply chain. Students will learn this broadened supply chain framework and use that to learn and organize a wide variety of tools and techniques used in operations management. Effective and efficient operations that generate value for investors, utilize resources optimally, provide stable employment and establish sustainable societies contribute directly to creating a just and humane society which is the goal of the Jesuit tradition. The operations knowledge learned in this course enables students to employ the tools and techniques to make supply chains effective and efficient.

CLASS ATTENDANCE AND PREPARATION

1. A person seeking to demonstrate his/her mastery of the concepts addressed in this course will attend all class sessions and actively participate in discussions.
2. In rare and unavoidable circumstances when a person must be absent from a class, arrangements should be made to obtain lecture notes and handouts from another member of the class. Only one absence will be permitted for this semester.
3. For successful study, it is absolutely imperative that each person be well prepared for every class session. Prior to class time, assigned readings and activities must be completed if the learner wishes to gain an understanding of the concepts being addressed, to be in a position to raise pertinent questions, and to actively participate in discussion. Do not allow yourself to adopt a passive learning style.
4. Students are encouraged to ask questions, challenge each other and the instructor, and to reflect upon the material presented.
5. Classes will consist of lectures, small and large group discussions, videos, exercises, case analysis and presentations. Guest lecturers may be used.
6. Each student team will complete assigned in-class problems following the instructions provided. Students will work in teams to be used as a reference group for in-class discussions, presentations and activities.
**GRADING**

100 points **Paper and Presentation** (Individual Project)
100 points **Midterm Exam** (Individual)
100 points **Class Participation, Attendance and in-class problem solving** (Individual)
100 points **Final Exam** (Individual)
400 points TOTAL

A = 95%+
A- = 90%-94.5%
B+ = 85%-89.5%
B = 80%-84.5%
C+ = 75%-79.5%
C = 70%-74.5%
D = 65%-69.5%
F = below 65%

As the class progresses in time and as each of the grade components is completed, your earned grade will be entered in Blackboard. I will announce in class whenever the grade book on Blackboard is updated.

**CLASS PARTICIPATION** (100 points): Your class participation should demonstrate: (1) evidence of careful preparation of the reading material and cases; (2) clarity and conciseness of your contributions in class; and (3) strong and convincing analysis to support your solutions to problems in class. Your attendance, preparation, and active involvement in class will be assessed. You are expected to read all assignments and cases prior to class and to actively participate in class discussions. An overall assessment of class participation points for all classes will be recorded using the following scale:

- VERY LOW SCORE: Absence (partial or complete, leaving or arriving after break time/s)
- LOW SCORE: Attended, but did not demonstrate active, informed involvement
- MEDIUM TO HIGH SCORE: Attended and contributed to discussions, reflecting a good understanding of material and evidence of preparation
- HIGH SCORE: Attended and demonstrated exceptional insight through comments and analyses

Class participation scores will be posted on Blackboard after the last class.

**Absenteeism:** My objective is to create an open and enjoyable classroom environment that is both intellectually stimulating and conducive to your growth as a business professional. But just to make sure I am fair to those who attend every class, attendance will be taken in each class from the “learnings” document submitted by you in each class. If you miss two classes or part of two class sessions, your final class participation grade will be “rounded downward” by one letter grade (5%). If you are repeatedly late you will penalized for poor attendance.

**EXAMS** (200 points total). There are two exams – midterm and final. Each exam is 100 points and will include a combination of objective (multiple-choice and True-False) items and operations. Dates for the exams will be announced in the first class when the class schedule is discussed. The operations problems will be along the same lines as those solved in class.

**Individual Paper and Presentation Assignments** (100 points total). Each student will be required to complete a term paper describing some aspect of the operations function of an actual organization. Each student will also give a 15 minute presentation to the class on their term paper topic.
GENERAL COMMENTS
- The syllabus is subject to change by class announcement.
- The material listed in the syllabus will be covered as the time permits.
- The textbook and completed assignments for that day must be brought to each class session.

HONESTY: All forms of cheating will result in an F for the course. Individual case papers may be discussed with your peers, but the completion of the report must be your own. The individual take-home final case final must be your own work.

WITHDRAWAL AND CHANGES
Please note the relevant and most recent calendar dates and academic regulations as published by Xavier University in its catalog.
**CLASS SCHEDULE:** Following table presents the assignments and content coverage for each class. In the first class, we will discuss the class schedule in detail along with the specific calendar dates to ensure the University holidays in the current semester are taken into account.

| Date (6:00 pm to 9:45 pm) | Topics, Textbook  
|---------------------------|-----------------------------  
| **Classes and Readings** |  
| Class #1 (9th October) | Overview; Expectations; Syllabus; Grading; Blackboard Materials, etc.  
| Chapter 1: Using Operations to Compete; Supplement A: Decision Trees  
| In-class Discussion  
| Problems: Productivity Computations; Decision Trees  
| Class #2 (16th October) | Chapter 2: Project Management  
| In-class Discussion  
| Problems: Critical Path Method; Variable activity durations; Project Crashing  
| Class #3 (23rd October) | Chapter 3: Process Strategy; Chapter 4: Process Analysis  
| In-class Discussion  
| Problems: Layout Designs, Learning Curve Effects, Pareto Analysis  
| Class #4 (30th October) | Chapter 5: Quality and Performance; Chapter 6: Capacity Planning  
| Supplement B: Queuing Theory and Waiting Lines  
| In-class Discussion  
| Problems: SPC Charts, Capacity Computations; Waiting Line problems  
| Class #5 (6th November) | Chapter 7: Constraints Management (not included for midterm exam)  
| Midterm Exam  
| Class #6 (13th November) | Chapter 7 (continued): Constraints Management  
| Chapter 8: Lean Systems  
| In-class Discussion  
| Problems: Bottleneck Problems; Kanban calculations  
| Class #7 (20th November) | Chapter 9: Supply Chain Inventory Management  
| Supplement C: Special Inventory Models  
| In-class Discussion  
| Problems: EOQ, safety stock, Special cases in inventory management  
| Class #8 (27th November) | Chapter 10: Supply Chain Design; Chapter 11: Supply Chain Location Decisions  
| In-class Discussion  
| Problems: Center of Gravity method, Transportation Problems  
| Class #9 (6th December) | Chapter 12: Supply Chain Integration  
| Individual Presentations (15 minutes per student on a sub-topic in Operations Management. OBJECTIVE: Push the envelope of Operations knowledge)  
| Class #10 (13th December) | Course and Instructor Evaluations  
| Final Exam  
