

**AL AKHAWAYN UNIVERSITY  
SCHOOL OF BUSINESS ADMINISTRATION**

**MGT 5309 – LOGISTICS AND SUPPLY CHAIN MANAGEMENT  
SYLLABUS**

**PART-TIME MBA – FALL 2009**

**Instructor Information**

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**Class meetings schedule:**

The class will meet on two weekends:

- from October 30<sup>th</sup> to November 1<sup>st</sup>, 2009,
- and from November 13<sup>th</sup> to 15<sup>th</sup>, 2009

**Course Description:**

Logistics and supply chain management activities have always been vital to organizations of all kinds. This management area, which federates activities as diverse as production, transportation, inventory, warehousing, purchasing, material handling, sales, and customer service, represents a synthesis of methods and techniques coming from traditional business areas of finance, accounting, management, and marketing, as well as business decision-making tools offered by operations research, statistics, and economics.

This course examines logistics systems that support the physical supply of raw and semi-finished materials to a firm, the planning and control of operations, and the delivery of the products or services up to the final customers, with the objective of achieving a sustainable competitive advantage and optimizing the value and the long-term performance of the firm and the supply chain as a whole. The focus will be on the design, planning, organization and control of the associated activities. The following topics will be covered: supply chain structure, objectives and evaluation drivers and metrics, network design and facility location in a supply chain, demand and sales forecasting, aggregate planning, planning and managing inventory in a supply chain, transportation operations, sourcing and procurement, pricing, and information technologies in supply chain management.

**Course Prerequisites:**

GBU 5306 and MGT 5305

## **Course Objectives:**

After completion of the course, students will be able to:

1. Define a supply chain (SC), and understand its different structures and its importance to the success of a firm.
2. Understand the concept of strategic fit between the SC strategy and the competitive strategy of the firm and how to achieve it.
3. Identify the main drivers of SC performance and measure them using precise metrics.
4. Assess the importance of distribution networks and the different options available for their design.
5. Develop a methodological framework for network design and facility location and use optimization models and techniques for facility location and capacity allocation.
6. Use decision trees to evaluate supply chain decisions under uncertainty.
7. Use time-series methodologies to forecast demand in a supply chain.
8. Understand situations in which aggregate planning is appropriate and the role it plays in the supply chain.
9. Formulate aggregate planning problems as linear programs and solve them using MS Excel.
10. Understand the concept of cycle inventory and develop the Economic Quantity Order (EOQ) model and some of its variants.
11. Use safety inventory to deal with demand uncertainty in the supply chain.
12. Understand the importance of transportation in the SC, and identify the different modes of transportation and the role played by infrastructure and policies.
13. Discuss sourcing decisions in the supply chain and the increasing importance of auctions and negotiations.
14. Understand pricing and revenue management and their role in the SC.
15. Assess the importance of the role played by information technology in a supply chain, and identify major IT applications

## **Textbook and other Teaching Material**

This course has the following required textbook: “**Supply Chain Management – Strategy, Planning, and Operation, 3<sup>rd</sup> Edition**”, by S. Chopra and P. Meindl, Prentice Hall, 2007.

In addition, slides for the chapters covered in class and other teaching material (readings, papers, etc.) will be made available to the students, following the course progress.

## **Reading Assignments**

Students should come prepared to the class, by reading in advance the sections of the textbook that will be covered in the session, as well as any other material handed by the instructor.

## **Assignments and Projects**

The students will have several **assignments** that consist of a series of **review questions and problems** and/or a **case study**, with the purpose of practicing and assessing the understanding of the topics taught in class. The assignments should be done by groups of two students maximum.

The students will also do a **term project**, which will be devoted to the study of the supply chain and logistical operations of a Moroccan company of their choice. The project is meant to put into practice most of the topics studied in this course and will require a significant analysis and implementation effort. Being a team-oriented task, the project should be done by teams of two students. Each team should deliver an in-depth **report (paper)** presenting the background of the company, describing in detail its current supply chain, identifying quantitatively strengths and weaknesses of the chain and the logistics operations of the company, identifying alternatives, simulating the implementation of these alternatives if necessary, and making recommendations.

### **Evaluation and Grading**

The grading scale is as follows:

Assignments(Cases, Problems, etc.)	20%
Project	25%
Exam	40%
Participation: attendance + interaction in class	15%

Letter grades are awarded on the basis of the traditional system:

90% and up earns an A; 80% to 89.99% earns a B; 70% to 79.99% earns a C; 60% to 69.99% earns a D; Less than 60% earns an F.

### **Tentative Class Schedule (Topics Covered)**

- **Days 1, 2, and 3 (October 30th to November 1st, 2009)**
  - ✓ Understanding the Supply Chain (Chapter 1 of the Course's required textbook)
  - ✓ Supply Chain Performance: Achieving Strategic Fit and Scope (Chapter 2)
  - ✓ Supply Chain Drivers and Metrics (Chapter 3)
  - ✓ Demand Forecasting in a Supply Chain (Chapter 7)
  - ✓ Aggregate Planning in a Supply Chain (Chapter 8)
  - ✓ Planning Supply and Demand in a Supply Chain: Managing predictable Variability (Chapter 9)
  - ✓ Midterm Exam-Part I! (November 1st, 2009)
  - ✓ Case study due! (November 8<sup>th</sup> 2009)
  - ✓ Midterm Exam-part II Take home due November 13<sup>th</sup>, 2009
  
- **Days 4, 5, and 6 (November 13th to 15th, 2009)**
  - ✓ Designing Distribution Networks (Chapter 4)
  - ✓ Network Design in the Supply Chain (Chapter 5)
  - ✓ Network Design in an Uncertain Environment (Chapter 6)
  - ✓ Managing Economies of Scale in a SC: Cycle Inventory (Chapter 10)
  - ✓ Managing Uncertainty in a SC: Safety Inventory (Chapter 11)
  - ✓ Transportation in a SC (Chapter 13)??
  - ✓ Presentation of proposals of Term Projects (November 15<sup>th</sup> 2009)
  - ✓ Take home Final Exam! (November 21<sup>st</sup> Midnight)
  - ✓ Term Projects Papers due! (November 30<sup>th</sup> 2009, Midnight)