GS/MSMG 6550 - Fundamentals of Supply Chain Management

Course Director: Dr. Mustafa Karakul, **Email:** mkarakul@yorku.ca
Time: Monday, 3:00pm – 6:00pm
Location: D112
Office Hours: After classes. Please make an appointment 24 hours in advance please.

Course Objectives:

Supply Chain Management studies the state-of-the-art planning tools for the operation and management of the supply chains or logistic networks. These models capture essential features of complicated real-life problems and explicitly identify assumptions under which supply chain operations strategies are practically effective.

The goal of the Supply Chain Management course is to study the essence of successful implementation of operations management techniques in improving supply chain performances. In recent years, many major global companies leveraged their relationships with both suppliers and customers and revolutionized their fundamental business models to become leaders of their industries. For example, Dell used the direct to customer strategy in the computer industry, Walmart used cross-docking in retailing and Benetton used mass customization and postponement in manufacturing. Fundamentally, all these companies capitalized on the integration of business operations. As a result, supply chain management that focuses on the integration techniques both within and across businesses becomes the focal point of interest to managers in various industries.

Though integration techniques are very powerful in improving the performances (e.g. profit and inventory turns) of a supply chain, they are not implemented without failures. Besides the potential benefit, it is thus essential also to know the basic requirements and probable pitfalls in implementing these techniques.

This course will emphasize on real-life applications of various supply chain integration techniques. For effective discussion of these applications, the students are required to prepare them before the classes.

Some mathematical models are required to understand these techniques. Rigorous derivation of these mathematical models and the intuition behind these models will be discussed. Several lectures will be used to introduce the required basic concepts. Students will be expected to incorporate and further investigate these techniques in their studies.

Course Website: https://eclass.yorku.ca/course/view.php?id=84182

Required Textbook:
D. Simchi-Levi, P. Kaminsky and E. Simchi-Levi, Designing and Managing the Supply Chain, Third Edition, Irwin McGraw Hill, 2008.

This is a very practical book and will provide a good overview of the models and tools that we will be studying. Supplements will be provided throughout the class, when necessary.

Optional Reading Material:
Chopra, S., and Meindl P., *Supply Chain Management: Strategy, Planning and Operation*, Prentice Hall, 2019.

This book is optional; it may help you particularly with the analytical models.

Marking Scheme:

Assignments (2 each 12%)	24%
Executive Summaries (8x2% each ES)	16%
Midterm	30%
Final Exam	30%
Total	100 %

Reading and Class Participation

Students are expected to write a one-page (or less) executive summary (ES) of the reading assigned for that class. I expect an executive summary of the reading **typed** with your own sentences and be submitted at the beginning of the class it is assigned to.

Every student is expected to actively participate in the discussion of the material.

Course Schedule:

Note that the course schedule below is subject to change as deemed appropriate/necessary by the Professor during the semester.

A day before each class scheduled below, related material such as lecture notes extra materials, handouts will be posted on eClass. Students are expected to read the chapter(s)/readings and go over the lecture notes before the class time.

Week	Date	Topic	Chapter	Requirements
1	Sep 11	Course Introduction Introduction to Supply Chain Management **Reading:** M.L. Fisher, "What is the right supply Chain for your Product?" *Harvard Business Review*, Mar-Apr. 1997, pp. 105-116.	1	
2	Sep 18	Inventory Management – EOQ	2	ES#1 (Fisher), ES#2 - Ch1
3	Sep 25	Inventory Management –Multiple Period Probabilistic Demand Models		ES#3- Ch2
4	Oct 2	Inventory Management - Risk Pooling	2	ES#4 – Risk pooling game observations
	Oct 9	**Reading Week - No Class (Oct 7-13)**		
5	Oct 16	Inventory Mgt.- Newsboy Model	2	ES#4 – Risk pooling game observations
6	Oct 23	Network Planning **Reading:** Extra Slides to be posted	3	**Assignment #1 Due** ES#5 Extra slides
7	Oct 30	**Midterm in-class**		**Covers Weeks 1-6**
8	Nov 6	Value of Information and Bullwhip Effect **Reading:** H. Lee, P. Padmanabhan, S. Whang, "The Bullwhip Effect in Supply Chains," *Sloan Management Review*, Spring 1997, p. 93-102.	5	ES#6 – Lee et. al. (1997)
	Nov 8	**Last Date to drop without receiving a grade**		
9	Nov 13	Supply Contracts	4	ES#7 – Beer game observations
10	Nov 20	Smart Pricing **Reading:** S. Netessine and R. Shumsky, Introduction to the Theory and Practice of Yield Management, INFORMS Transcations on Education 3:1 (34-44), Sept. 2002.	13	ES#8 – Netessine and Shumsky (2002)
11	Nov 27	Distribution Strategies, Strategic Alliances	7, 8	
12	Dec 4	**Final Exam**		**Comprehensive**

Assignments, Midterm and Final Exam Policies

1. Information concerning the Assignments, Midterm Test and the Final Exam will be posted on course eClass site.
2. **Assignments:** Students will be assigned two assignments that contain problem-solving type exercises. The purpose of the assignments is to not only help the students understand the subject matter in more detail but also help them prepare for parts of the exams. Assignment must be done individually. The assignments are due at the beginning of the class, before 3:30pm. Email submissions will NOT be accepted. Marked assignments will be returned to the students.
3. **Exams:** Two exams, a Midterm Exam and a Final exam, will be written in this course. They will contain mainly problem-solving type questions. There might also be a set of True/False, Multiple Choice and short essay type questions. The exams will be conducted closed-books and notes but a formula sheet will be provided. Further information on the exams and the formula sheet will be provided a week before the exams.
4. If you miss the Midterm test, the weight of the test (30%) will be automatically (no documents such as doctor notes needed) transferred to the final examination and the student will take a **more balanced** comprehensive exam worth 60%.
5. The more **balanced** comprehensive final exam will include material from the entire semester. Duration of Comprehensive Final Exam might be different than the Regular Final Exam.
6. ***There are no alternative exam dates and times for the Midterm Test.***
7. If a student misses the Final Examination and has to defer the exam, the deferred exam will be a **comprehensive** examination.
8. Do not write an exam if you do not feel well. Once you start any Testing Component (Midterm Test or Final Exam), the marks you receive will be used. If you quit after starting a test, then whatever you attempted will be marked and will be in your records.
9. If you need religious accommodations, please follow the York University policy/procedure and once approved, update your professor at least 96 hours prior to the testing component.

Academic honesty and integrity

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities, and can be punishable according to the Senate Policy on Academic Honesty.

General Policy

1. **WARNING:** Distribution or uploading of course content is **STRICTLY PROHIBITED**. All material is **copyright protected.**
2. Concerns regarding marks **will not be entertained after a week** from the release of the marks/result.
3. Students will not be allowed to write the midterm or the final exam unless they are on the class list.
4. Due to unavoidable circumstances if any lecture is missed a date for make-up lecture will be announced on course eClass site.
5. Please ensure you read all documentation on the course eClass site.
6. It is your responsibility to visit course eClass site on a regular basis.
7. In case of a fire alarm during a class session, students are to get up instantly, collect their personal belongings, and leave the building. (You should not wait for someone to tell you to do so.)

Student Accessibility Services

While all individuals are expected to satisfy the requirements of their program of study and to aspire to achieve excellence, the university recognizes that persons with disabilities may require reasonable accommodation to enable them to perform at their best. The university encourages students with disabilities to register with **Student Accessibility Services** to discuss their accommodation needs as early as possible in the term to establish the recommended academic accommodations that will be communicated to your Professor as necessary. **Please let me know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course.**

Students registered with Student Accessibility Services are instructed to deliver the letter of accommodation to each of their course directors via email within the first two weeks of class.

RELEVANT UNIVERSITY/LA&PS/SCHOOL REGULATIONS

Applicable to all ADMS and DEMS courses

RELEVANT UNIVERSITY REGULATIONS

University & School Policies