**IE7325: Supply Chain Management (4 Credits)**

**Course Syllabus**

**Fall 2013**

**Tuesdays and Thursdays 5:30PM–7:20PM**

**Instructor:** Dr. Alper Murat, Associate Professor  
Industrial & Systems Engineering Department

**Classroom:** 2060 IME Building  
**Contact:** 313.577.3872 (Voice); amurat@wayne.edu

**Office:** 4815 Fourth Street, Detroit, MI 48202 (Room 2051)  
**Office Hours:** Tuesdays, Thursdays 4:30PM-5:30PM

**TA:** N/A  
**Web Site:** http://blackboard.wayne.edu

**Prerequisites:** None; Preferred: "IE6560: Deterministic Optimization" and "IE7315: Production Systems"

**Course Objectives:** Supply chain management and logistics is unique and, to some degree, represents a paradox because it is concerned with one of the oldest and also the most newly discovered activities of business. Supply chain system activities – communication, inventory management, warehousing, transportation, facility location, and production - have been performed since the start of commercial activity. It is difficult to visualize any product that could reach a customer without logistical support. Yet it is only over the decade that firms have started focusing on logistics and supply chain management as a source of competitive advantage. Logistics and supply chain management today represents a great challenge as well as a tremendous opportunity for most firms. Another term that has appeared in the business jargon recently is demand chain. From our perspective, we will use the phrases logistics management, supply chain management and demand chain management interchangeably.

After taking this course students will be able to
- Understand the impact of supply chain management on enterprise efficiency
- Understand various business functions, processes and supply chain terminology
- Appreciate various supply chain viewpoints
- Master concepts and mathematical models behind various supply chain software
- Understand competing supply chain operations and reference models
- Understand broader trends in the area of supply chain management


**References:**


**Course Format:** Class will be a mix of lectures, in-class exercises, case discussions, reading assignments, and applications. Most of the class material will be posted on the course website.

**Group Term Paper:** This class requires the completion of a group term paper, to be completed in teams of 3 students. The deliverables include a term paper (approximately 10 to 12 pages, single-spaced, in
length excluding graphics, due on the day of in class presentation) and potentially a short in-class presentation (15 minutes including Q&A). Possible options for the term paper include (but not limited to):

- Analyze a real company’s existing supply chain. Detail the interactions and complexities of the supply chain. Use tools and concepts learned in this class to offer critiques of how the supply chain (or how it does not) complements the business objectives of the company. Compare SCM practices of the company with best practices reported in the literature. Offer suggestions for improving the supply chain operations and justify your recommendations.

- Explore a topic in supply chain management in depth that is not fully covered in this class. While the web and other sources can be valuable resources for this work, you are also expected to review relevant journal articles.

Such topics may include:

1. Sourcing
2. Procurement
3. Reverse logistics
4. Third-party logistics
5. Multi-modal logistics
6. Warehousing & distribution centers
7. Specialized logistics modeling software
8. Supply chain risk management
9. Supply chain security
10. Issue of trust in supply chain
11. Incentive alignment along the supply chain
12. Collaborative planning and forecasting (CPFR)
13. Vendor managed inventory (VMI)
14. Revenue management
15. Service supply chains
16. Supply chain reference models
17. Supply chain simulation
18. SC software vendors/solutions

- Pick several research articles dealing with a particular detailed topic within the domain of supply chain management. Provide a detailed analysis and critique of the articles. Some useful journals for these types of articles include Management Science, Interfaces, Supply Chain Management Review, Journal of Operations Management, and Manufacturing and Service Operations Management.

You will be graded on both the quality and thoroughness of your work as well as the difficulty of your chosen topic. Late reports will be assigned lower grades. Students caught plagiarizing in writing the term paper will be given a failing grade for the course.1 Due: December 4th.

Reading Assignments: The reading assignments will help you better understand the material covered in class. Read the assigned material prior to class discussion. Students will also be tested on reading assignment material during the exam and class quizzes.

Individual Report: Each student is required to write a report (not to exceed 10 typed pages) on a company’s supply chain or supply chain initiative. Late reports will be assigned lower grades. Due: TBD.

Case Studies: Each student will have to summarize 5 cases and suggest a solution to issues raised by the case. Most case studies, as is the case with many problems in the real-world, do not necessarily have a single best solution. All solutions tend to involve tradeoffs. You are responsible for addressing the issues raised in a holistic and integrated way. All case study reports are not to exceed 4 typed pages (single spaced). The issues/questions to be addressed are posted on the course website. Late reports will be assigned lower grades.

Special Assignments: Special assignment, the “Beer Game” assignment, will be assigned to student groups. The specific requirements will be discussed in class along with deadline and grading criteria.

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1 To avoid potential problems with your assignments, reports, and projects, it is imperative that you familiarize yourself with report writing standards, appropriate use and citation of material, and the definition of plagiarism. Plagiarism will be prosecuted fully, including failing the course and remanding the case to student judicial processes. "I didn't know" will not be an acceptable excuse if your report is found to be plagiaristic. Be aware that the team-based nature of the course extends any penalty to the whole group. The following website has some good material on plagiarism:
http://ted.coe.wayne.edu/drbob/plagiarism.html
Homework Assignments: Homework assignments will be posted on course website and announced in class. Homework will be due at the beginning of the class period. Homework submitted late by one class will be evaluated at 50% credit and late by 2 (or more) classes will not receive any credit. Homework should be submitted on clean sheets and will be evaluated based on completeness. Depending on the size of the class and length of the homework, individual homework grades could be based on randomly sampled problems. Students are strongly encouraged to use Excel templates from Course/Book Website to complete the homework.

Collaboration during the conceptualization and formulation process of homework assignments is allowed. However, all homework assignments must be completed and written up individually. Violation of this policy will certainly lead to a failing grade for the homework and action that is more stringent might be taken.

Class Quizzes: Students will attempt 6 in-class quizzes on topics recently covered. Quizzes will have short answer problems from book chapters, in-class discussions and assigned readings.

Special Needs: If you feel that you may need an accommodation based on the impact of a disability, please feel free to contact me privately to discuss your specific needs. Additionally, the Office of Educational Accessibility Services (EAS) coordinates reasonable accommodations for students with documented disabilities. The office is located in the Student Center Building, Room 583, Phone: 313-577-1851 (Voice) 313-577-3365(TTY).

Attendance Policy: Students attending any given class are required to join the class within the first five minutes to minimize any class disruptions.

Cheating/Conduct Policy: It is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Thus, a student should not falsely claim the work of another as his/her own, or misrepresent him/herself so that the measures of his/her academic performance do not reflect his/her own work or personal knowledge. In this regard, cheating will not be tolerated. Cheating includes (but is not limited to) any communication (written or oral) during examinations and sharing of work, such as using the same models or computer programs or copying work. All assignments and projects must be an individual effort unless specifically noted. All written assignments and oral presentations are expected to conform to accepted standards for citation (referencing). STUDENTS WHO CHEAT ON ANY ASSIGNMENT OR DURING ANY EXAMINATION WILL BE ASSIGNED A FAILING GRADE FOR THE COURSE. Therefore avoid all appearance of improper behavior! Students who witness cheating should report the incident to the instructor as soon as possible. (Cheating observed during an Exam should be quietly reported during the Exam period). Students are also welcome to discuss any concerns related to cheating with the Chair of the department.

Deferred Grades Policy: A grade of 'I' can only be assigned if all of the following criteria are met:
1. the student IS NOT currently failing the class and,
2. there is NOT a substantial quantity of work yet to be completed,
3. there is no extra work required of the instructor beyond the normal duties of grading the paper/exam,
4. there is no need for the student to attend the class in subsequent terms.
The final decision to assign an incomplete grade rests with the instructor. An 'I' grade MUST be made up within one year of assignment of the grade.
Grading: Grading will be “tentatively” based upon a maximum attainable point total of 550 points.

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<tr>
<th>Assignment</th>
<th>Points</th>
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<tr>
<td>Comprehensive Final Exam</td>
<td>100 pts</td>
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<tr>
<td>Group Term Paper</td>
<td>70 pts</td>
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<tr>
<td>Individual Report</td>
<td>50 pts</td>
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<tr>
<td>In-Class Quizzes (6)</td>
<td>6x20</td>
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<td>Case Studies (5)</td>
<td>5x20</td>
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<td>Special Assignments (2)</td>
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<td>Homework Assignments (6)</td>
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<td>In-Class Discussion</td>
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<td>Overall Total:</td>
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TENTATIVE OUTLINE (subject to change)

Week 1: Introduction to SCM
(3 September)
- SCM: An executive reference paper
- The Power of Virtual Integration: An Interview with Michael Dell
- Meditech Surgical.com Case *(Recommended reading, no summary)*

Week 2: Building a Strategic Framework to Analyze Supply Chains (Chapters 1, 2, 3)
(17 September)
- What is the right supply chain for your product?
- Seven Eleven Japan Case 1

Week 3: Designing the Supply Chain Network (Chapters 4, 5, 6)
(24 September)
- Quick Response
- Global Supply Chain Management at DEC
- BioPharma Case 2

Week 4: Quiz 1: Planning Demand and Supply in a Supply Chain (Chapter 7)
(1 Oct)
- Making supply meet demand in an uncertain world
- Production planning in Japan

Week 5: Planning Demand and Supply in a Supply Chain (Chapters 8 and 9)
(8 Oct)
- Specialty Packaging Case 3 (Parts A & B)

Week 6: Quiz 2: Planning and Managing Inventories in a Supply Chain (Chapter 10)
(15 Oct- No class on 8th Oct. and class on 10 Oct. will be extended session)
- Managing supply chain inventory: pitfalls and opportunities
- Sport Obermeyer Case 4
Week 7: Planning and Managing Inventories in a Supply Chain (Chapters 11, 12) (22 Oct)
  □ VMI; Postponement
  □ Barilla SpA (A) Case 5

Week 8: Quiz 3: Designing and Planning Transportation Networks (Chapter 13)
Due: Individual Report Proposal (29 Oct)
  □ Third party logistics

Week 9: Managing Cross-Functional Drivers in a Supply Chain (Sourcing: Chapter 14) (5 Nov)
  □ Sourcing practices in the Auto Industry;
Due: Group Project Proposal

Week 10: Quiz 4: Managing Cross-Functional Drivers in a Supply Chain (Pricing and RM: Chapter 15) (12 Nov)
  □ Bullwhip effect in SCs

Week 11: Managing Cross-Functional Drivers in a Supply Chain (IT & Coordination: Chapters 16 and 17) Beer Game Discussion (12 Nov- No class on 14th Nov. and class on 12 Nov. will be extended session)
  □ FedEx Corp.: Structural Transformation Through e-Business
Beer Game Assignment 2
Due: Individual Report

  □ APS Guide; Survival in SCM market; SeeCommerce at DaimlerChrysler; i2 Technologies Inc.
  □ APO functions in Detail
  □ SCOR Overview Booklet

Week 13: Mathematical Models for APS SC Operations Reference (SCOR) Model (26 Nov. – No class on 28 Nov. due to Thanksgiving Recess)
  □ APO functions in Detail
  □ SCOR Overview Booklet
Due: Group Project Report

Week 14: Quiz 6: SAP’s SCM Solution and Comparison; i2 SCM Software Solutions (3 Dec)
  □ Overviews of SAP, i2, Manugistics and Oracle offerings; SC Consultants

Group Presentations

Week 15: (12 Dec) Final Exam