OM 368: LOGISTICS AND INVENTORY MANAGEMENT  
SPRING 2020 SYLLABUS  
Unique No. 04435: TTH 3:30PM- 5:00PM in UTC 1.146

Instructor: Fatemeh Firouzi  
Office Hours: Please see Canvas  
Office: Please see Canvas  
e-mail: f.firouzi@utexas.edu

COURSE DESCRIPTION
Supply Chain Management is the management of all activities governing the flow and transformation of resources from initial suppliers to ultimate consumers to make products and services available to customers at the right time, place, price, and condition in the most profitable and cost effective manner. Logistics and inventory management activities enable supply chain management; they are the “backbone” of the supply chain. This course covers the main concepts in logistics and inventory management, specifically, forecasting, transportation, facility location, inventory management, storage, and material handling. Methodologically, the course emphasizes cost modeling, logistics network optimization, and risk management. Using case studies, skill building exercises, and industry guest speakers, students will learn to apply these concepts to solve real-life problems.

COURSE OBJECTIVES
The main objectives of this course are:

• To provide students with an understanding of the role and importance of logistics and inventory management in today’s successful product and service companies.
• To familiarize students with the basic logistics and inventory management concepts, techniques, and methods to solve strategic, tactical, and operational problems in the supply chain.
• To enhance analytical skills of students by using economic and optimization models to solve real-life logistics and inventory management problems.

Prerequisites: OM 334M or 335 or 335H; and credit or registration for OM 337 (Topic 2) or 338.

COURSE MATERIALS
This course is a mixture of lectures and case-discussions. The required readings for the class come from the following sources:

2. Harvard Business School Publishing (HBSP) Coursepack. Please go to [https://hbsp.harvard.edu/coursepacks/700136](https://hbsp.harvard.edu/coursepacks/700136) to acquire. (Note: the first time you login, you will have to register for an account.)

3. Handouts from the Professor (available at Canvas, unless stated otherwise).

The following are optional references:


The following software will be used in this course for analysis:

2. Palisade Decision Tools Software Suite. This suite of software are all add-ins to Microsoft Excel for Windows made available to all McCombs students. We will mostly use StatTools for doing forecasting.

The course schedule at the end of this document lists, for every class session, the topic, readings, cases, assignments, and anything else of importance. Please read this schedule carefully before every session. If the schedule changes, I will provide updates. Because class time is our most precious and inelastic resource, please come to every class prepared. Essential preparation includes reading the assigned readings and cases, doing the assignments, and bringing these resources and materials to each class.

I will provide electronic copies of the PowerPoint slides (and other materials available in electronic format) at Canvas before each class session.

**PERFORMANCE EVALUATION**

The performance criteria are weighted as follows:

- Test 1 (see course schedule for the date) \% 20
- Test 2 (see course schedule for the date) \% 20
- Test 3 (see course schedule for the date) \% 20
- Individual Homework Assignments (see course schedule for due dates) \% 20
- Group Homework Assignments (see course schedule for due dates) \% 10
- Class Participation \% 10

Homework assignment and test grades will be posted at Canvas shortly after they are graded. Please check your grades repeatedly throughout the semester and report any problems to me immediately.
Final letter grades in this course will be assigned according to the following final numeric grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Numerical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≥93.3</td>
</tr>
<tr>
<td>A-</td>
<td>≥90.0</td>
</tr>
<tr>
<td>B+</td>
<td>≥86.6</td>
</tr>
<tr>
<td>B</td>
<td>≥83.3</td>
</tr>
<tr>
<td>B-</td>
<td>≥80.0</td>
</tr>
<tr>
<td>C+</td>
<td>≥76.6</td>
</tr>
<tr>
<td>C</td>
<td>≥73.3</td>
</tr>
<tr>
<td>C-</td>
<td>≥70.0</td>
</tr>
<tr>
<td>D+</td>
<td>≥66.6</td>
</tr>
<tr>
<td>D</td>
<td>≥63.3</td>
</tr>
<tr>
<td>D-</td>
<td>≥60.0</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60.0</td>
</tr>
</tbody>
</table>

**Tests:** The tests will require both quantitative and qualitative responses. The split will, however, be weighed more to the quantitative due to the emphasis in this class and on the homework assignments. For all tests, you will be allowed to bring in one (1) sheet of 8 ½”x11” paper (double-sided) with your formulas and notes, and your calculator. Any probability distribution tables will be provided with the tests, so you needn’t waste your sheets on these details. I will make a statement on what will be covered on each test a week or so in advance of each test date.

**Homework Assignments:** Homeworks are designed to promote class preparedness, provide learning reinforcement, and extend the knowledge you have gained in class and from your readings. You will find that the homeworks provide excellent learning feedback and are a confidence-building tool. The assignments will also help with your preparation for the tests.

Homework assignments will be downloadable off Canvas. Each homework assignment will be posted on the web about one to two weeks in advance of the due date (see the course schedule at the end of this document for assignment due dates). Each question on an homework assignment will be graded as a 10 (perfect), 9 (minor errors), 8 (good attempt), 6.5 (attempt) and 0 (otherwise). All assignments are due by the beginning of class on the date listed in the course schedule at the end of this syllabus. No late assignments will be accepted.

All assignments will be submitted electronically through Canvas, unless indicated otherwise. When submitting your homework electronically, please do your best to adhere to the following:

1. If the homework is submitted in Excel File, please make it a single excel file. Please use multiple tabs to indicate different questions.
2. Homework write-ups are accepted in pdf or word document format. Make it a single file.
3. If you submit a scanned version of your hand-written homework, make it a single pdf file.

There are two types of homework assignments: individual and group. **Individual homework assignments** are skill building exercises. As the name suggests, you will turn in your homework as individuals. For these assignments, you are permitted to work with other students in the course because an important element of this course is teamwork. However, the solution that you turn in must be your own. At the end of the semester, your lowest individual homework assignment grade will be dropped.

**Group homework assignments** are more substantial case exercises completed in groups of four or five people. Teamwork on these assignments is not only beneficial but essential. Each
group will work as a team to answer the assignment questions and submit a single group solution set. The group homework needs to be typed doubled-spaced in 12pt font. Groups will be generated randomly by Canvas for each homework. An Evaluation of Participation on Group Homework form must be submitted by every student on each group homework. More details will be provided when the group homework assignments become available at Canvas.

Note, I will not add an assignment beyond what is already listed in the course schedule but I may choose to shift an assignment later in the schedule or eliminate it altogether, if necessary.

Class Participation:
Fifty percent of your class participation grade will be based on attendance at certain critical class sessions during the semester (case discussions and industry guest lectures – see course schedule for class sessions with an “*”). Forty percent will be used to encourage a productive learning environment. It is important that everyone come to class prepared and willing to contribute to discussion. Ideally, you will make concise, insightful, and eloquent comments in every class. However, I also recognize the importance of making smaller contributions, including asking good questions. I believe that the learning environment is best when the discussion is not dominated by a few, but moved along incrementally by all of us. Do not be afraid to make points that you may regard as minor, ask clarifying questions, or otherwise contribute in small ways. Lastly, at the beginning of most classes, we will start with a discussion of what is going on in the news related to supply chain and logistics. This a great way to contribute to class discussions and earn your participation grade. The last ten percent of your class participation grade will be reserved for “playing well with others” in your group homework assignments.

Regrade Requests:
If you would like a regrade of any homework assignment or test, please appeal it within SEVEN (7) CALENDAR DAYS of:

a) For the Tests 1 and 2 and homework assignments, the date that it is graded.

b) For the Test 3, the first class day of the semester immediately following your course.

After these seven days, I will consider all grades final unless they have been appealed.

Please realize that there are standard policies for point deductions for each problem with any test or assignment, so unless the grader has misapprehended your intent or misread your work, any partial credit is unlikely to change.

OTHER IMPORTANT INFORMATION:

Feedback: You and I will work together to create the best learning environment possible. Your informal feedback is very important to me. Please let me know throughout the semester if there is anything I can do to enhance your class experience.

Logistics: Attendance at each class session is expected unless otherwise noted. If you are unable to attend a class on a given day, please check with your classmates to find out whether any in-class
announcements were made. Please use e-mail for questions wherever feasible versus the telephone.

**Canvas:** Password-protected class sites will be available for all accredited courses taught at the University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Canvas allows a great deal of flexibility on how information is organized. I have chosen to put most course information on the “Home” page. Assignments are posted under “Assignments”. Note: class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information see: [http://www.utexas.edu/student/registrar/catalogs/gi02-03/app/appc09.html](http://www.utexas.edu/student/registrar/catalogs/gi02-03/app/appc09.html).

**Honor Code:** The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the BBA Program’s Statement on Scholastic Dishonesty at [http://my.mccombs.utexas.edu/BBA/Code-of-Ethics](http://my.mccombs.utexas.edu/BBA/Code-of-Ethics). By teaching this course, I have agreed to observe all faculty responsibilities described there. By enrolling in this class, you have agreed to observe all student responsibilities described there. If the application of the Statement on Scholastic Dishonesty to this class or its assignments is unclear in any way, it is your responsibility to ask me for clarification. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, the integrity of the University, and the value of our academic brand, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at [http://deanofstudents.utexas.edu/sjs/](http://deanofstudents.utexas.edu/sjs/) to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

**Use of Class Materials:** The materials used in this class, including, but not limited to, lecture materials, tests, and homework assignments are copyright protected works. Any unauthorized copying of the class materials is a violation of federal law and may result in disciplinary actions being taken against the student. Additionally, the sharing of class materials without the specific, express approval of the instructor may be a violation of the University’s Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This includes, among other things, uploading class materials to websites for the purpose of sharing those materials with other current or future students.

**McCombs Classroom Professionalism Policy:** The highest professional standards are expected of members of the McCombs community. The collective class reputation and the value of the McCombs experience hinges on this. It is my intent that students from all diverse backgrounds and perspectives will be well served by this course, that students’ learning needs will be addressed and that the diversity that students bring to this class can be comfortably expressed and be viewed as a resource, strength and benefit. Please let me know right away if this ever is not the case.
Faculty are expected to be professional and prepared to deliver value for each and every class session. Students are expected to be professional in all respects. Classroom expectations of students include:

- Students will arrive on time.
- Students will be fully prepared for each class.
- Students will attend the class section to which they are registered.
- Students will respect the views and opinions of their colleagues. Disagreement and debate are encouraged. Intolerance for the views of others is unacceptable.
- Phones and wireless devices are turned off unless otherwise instructed by the professor.

**Academic Accommodations:** Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259, [http://diversity.utexas.edu/disability/](http://diversity.utexas.edu/disability/). Additionally, accommodation for observance of religious holidays is also possible. Following UT Austin policy, please notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, a test, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

**Campus Safety:** Please note the following recommendations regarding emergency evacuation, provided by the Office of Campus Safety and Security, 512-471-5767, [http://www.utexas.edu/safety](http://www.utexas.edu/safety):

- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation should inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors.
- Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Behavior Concerns Advice Line (BCAL): 512-232-5050 (or [https://operations.utexas.edu/units/csas/bcal.php](https://operations.utexas.edu/units/csas/bcal.php)).
- Further information regarding emergency evacuation routes and emergency procedures can be found at: [www.utexas.edu/emergency](http://www.utexas.edu/emergency).”

**Miscellaneous Information:** On October 19-23, I may have professional commitments off-site. On these dates, it is likely that I will have an email connection, but it may be limited.
### OM 368: Tentative Schedule

<table>
<thead>
<tr>
<th>Date*</th>
<th>Topic</th>
<th>Readings **</th>
<th>Hwk. Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/21</td>
<td>Course Introduction</td>
<td>Chapters 1 and 2 (Skim these chapters to understand the structure of the textbook)</td>
<td></td>
</tr>
<tr>
<td>1/23</td>
<td>Supply Chain and Logistics Frameworks</td>
<td>Chapter 3; Chapter 4 (Section 4.1)</td>
<td></td>
</tr>
<tr>
<td>1/28</td>
<td>Discussion of Amazon.com: Supply Chain Management; Transportation and Logistics Management I: Transporation Planning</td>
<td>Amazon.com: Supply Chain Management (HBSP Coursepack); Chapter 14 (Sections 14.1-14.3); The Texas Transportation Case (Handout)</td>
<td>Individual Hwk 1</td>
</tr>
<tr>
<td>1/30</td>
<td>Transportation and Logistics Management II: Transportation and Transhipment Planning; Vehicle Routing and the Traveling Salesman Problem</td>
<td>The MTI Distribution Case (Handout)</td>
<td></td>
</tr>
<tr>
<td>2/4</td>
<td>Transportation and Logistics Management III: Vehicle Routing and Scheduling;</td>
<td>School Chaley Hum_Optimizing Students Commute to KPS Case Study (HBSP Coursepack)</td>
<td>Individual Hwk 2</td>
</tr>
<tr>
<td>2/6</td>
<td>Facility Location I: Gravity Location Models and Weighted Factor Checklist Models</td>
<td>Chapter 5 (Sections 5.1-5.3)</td>
<td></td>
</tr>
<tr>
<td>2/11</td>
<td>Facility Location II: Discussion of Location Planning at A.B. Corp. Case Study; Combined Transportation and Location Decisions and the General Logistics Network;</td>
<td>Location Planning at A.B. Corp. Case Study (HBSP Coursepack); Chapter 5 (Section 5.4-5.6); The Good Tire Case (Handout)</td>
<td>Individual Hwk 3</td>
</tr>
<tr>
<td>2/13</td>
<td>Preparation for the Managing a Merger at Lightning Networks Case Study; Warehousing and Distribution I</td>
<td>Managing a Merger at Lightning Networks Case Study (Chapter 5 Case Study)</td>
<td></td>
</tr>
<tr>
<td>2/18</td>
<td>Warehousing and Distribution II</td>
<td>Warehousing Strategy at Volkswagen Group Canada Inc. (VGCA) (HBSP Coursepack)</td>
<td>Individual Hwk 4</td>
</tr>
<tr>
<td>2/20</td>
<td>Managing a Merger at Lightning Networks Case Study Discussion</td>
<td>Managing a Merger at Lightning Networks Case Study (Chapter 5 Case Study)</td>
<td>Group Hwk 1: Managing a Merger at Lightning Networks Case Study Report</td>
</tr>
<tr>
<td>2/25</td>
<td>Introduction to Demand Planning and Forecasting; Time Series Forecasting (Static Methods)</td>
<td>Chapter 7 (pages 172-182)</td>
<td>Individual Hwk 5</td>
</tr>
<tr>
<td>2/27</td>
<td>Review for Test 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/3</td>
<td>Test 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date*</td>
<td>Topic</td>
<td>Readings **</td>
<td>Hwk. Due</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>3/5</td>
<td>Time Series Forecasting (Adaptive Methods, Part I): Moving Averages and Exponential Smoothing; Measures of Forecast Error;</td>
<td>Chapter 7 (pages 182-185, Section 7.4)</td>
<td></td>
</tr>
<tr>
<td>3/10</td>
<td>Time Series Forecasting (Adaptive Methods, Part II): Exponential Smoothing with Trend and Seasonality</td>
<td>Chapter 7 (pages 185-199)</td>
<td></td>
</tr>
<tr>
<td>3/12</td>
<td>Time Series Forecasting (Wrap-up): Metro Hospital Exercise; Aggregate Planning (Part I)</td>
<td>Metro Hospital Exercise (Handout); Chapter 8 (pages 205-214)</td>
<td>Individual Hwk 6</td>
</tr>
<tr>
<td>3/17</td>
<td>No Class</td>
<td>Chapter 8 (pages 215-222)</td>
<td></td>
</tr>
<tr>
<td>3/19</td>
<td>No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/24</td>
<td>Aggregate Planning (Part II)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/26</td>
<td>Sales and Operations Planning</td>
<td>Chapter 9</td>
<td>Individual Hwk 7</td>
</tr>
<tr>
<td>3/31</td>
<td>Discussion of Shumway, Horch, and Sager Case Study; Metro Hospital Exercise (Revisited)</td>
<td>Shumway, Horch, and Sugar case Study (Handout); Metro Hospital Exercise (Handout)</td>
<td>Group Hwk 2: Shumway, Horch, and Sager Case Study Repor</td>
</tr>
<tr>
<td>4/2</td>
<td>Inventory Management Introduction; Review of the EOQ Model; Independent versus Joint Ordering</td>
<td>Chapter 11 (pages 264-279)</td>
<td></td>
</tr>
<tr>
<td>4/7</td>
<td>Quantity Discounts</td>
<td>Chapter 11 (pages 282-290)</td>
<td>Individual Hwk 8</td>
</tr>
<tr>
<td>4/9</td>
<td>Review for Test 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/14</td>
<td>Test 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/16</td>
<td>Safety Inventory for Managing Uncertainty; Inventory Replenishment Policies</td>
<td>Chapter 11 (Sections 12.1-12.4)</td>
<td></td>
</tr>
<tr>
<td>4/21</td>
<td>Discussion of Delivery Strategy at MoonChem Case Study; Periodic Review of Inventory (Part I)</td>
<td>Delivery Strategy at MoonChem Case Study (Chapter 11 in Textbook); Chapter 12 (Section 12.6)</td>
<td>Group Hwk 3: Delivery Strategy at MoonChem Case Study Report</td>
</tr>
<tr>
<td>4/23</td>
<td>Periodic Review of Inventory (Part II); Aggregate Inventory Control and Risk Pooling (Part I)</td>
<td>Chapter 12 (Section 12.5)</td>
<td>Individual Hwk 9</td>
</tr>
<tr>
<td>4/28</td>
<td>Aggregate Inventory Control and Risk Pooling (Part II); In-Transit Inventory</td>
<td>Chapter 12 (Section 12.5)</td>
<td>Individual Hwk 10</td>
</tr>
<tr>
<td>4/30</td>
<td>Course Evaluations; Discussion of Managing Inventories at ALKO, Inc. Case Stud</td>
<td>Managing Inventories at ALKO, Inc. Case Study (Chapter 12 in Textbook)</td>
<td>Group Hwk 4: Managing Inventories at ALKO, Inc. Case Study Report</td>
</tr>
<tr>
<td>5/5</td>
<td>Review for Test 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/7</td>
<td>Test 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Attendance will be counted as class participation.
** Chapters are from the Textbook; Handout refers to a handout from the Professor (handouts will be available at Canvas, unless stated otherwise); HBSP Coursepack is the Harvard Business School Publishing Coursepack available at [https://hbsp.harvard.edu/coursepacks/700136](https://hbsp.harvard.edu/coursepacks/700136).