Supply chain management (SCM) is a set of approaches and methods used to efficiently integrate suppliers, manufacturers, warehouses and stores, so that merchandise is produced and distributed at the right quantity, to the right location, at the right time, in order to minimize system-wide costs while meeting service requirements. Efficient management of a supply chain requires effective applications of the concepts, tools and techniques of SCM that will be introduced in this course. The scope of SCM decisions is broad, ranging from strategic supply chain management to tactical and operational inventory control. Several key supply chain management concerns will be covered in this course including inventory control, information sharing, supply chain contracting, demand management, forecasting, network management and global supply chain issues. We will also discuss some industry-specific supply chains and the use of IT and decision support systems in the context of supply chain management.
<table>
<thead>
<tr>
<th>Pre-Requisites</th>
<th>C or higher in OM 303 and some basic familiarity with Excel. It is assumed you are proficient in elementary algebra, calculus and probability.</th>
</tr>
</thead>
</table>
| Undergraduate Program Learning Goals | 1) Our students will demonstrate an understanding of the social, global, ethical, and legal contexts of business and will be able to reflect on the role of the individual in business.  
2) Our students will demonstrate an understanding of and the ability to apply knowledge of professional skills necessary for success in business including effective business writing.  
3) Our students will demonstrate technical and analytic skills appropriate for success in business.  
4) Our students will demonstrate an understanding of and the ability to apply knowledge of core business disciplines including accounting, finance, information systems, management, marketing, and operations management.  
5) Our students will demonstrate knowledge and skills appropriate for specialization in their majors.  
6) Our students will demonstrate an understanding of how research in the business disciplines contributes to knowledge and how such research is conducted. |
| Course Objectives | By the end of the course, students will be able to:  
1) Understand the components of supply chain management and how they are related to other major business decision areas.  
2) Use and develop tools and quantitative techniques required to analyze, manage, and improve supply chain processes in order to increase competitiveness.  
3) Appreciate the strategic importance of supply chain management and supply chain strategies and understand how they need to be integrated with other functions of the organization.  
4) Develop logical and analytical thinking required in handling real-world business processes. |
| Course Material & Method of Instruction | The lecture notes will be posted on Blackboard every week. The course will be covered using a mix of lectures, discussions, problem solving, games, case studies and guest lectures. Since we will cover a broad range of topics, it is very important that you keep pace with the material. Hence, you are expected to read the material before coming to class. Solving homework exercises and preparing for the quizzes will ensure that as well. |
| Homework Exercises | I will post some homework exercises (practice problems) after certain classes; the solutions will be available soon after as well. These homework exercises will neither be collected nor graded. However, you are expected to go through them to improve your understanding of the material. In |
order to get the most out of these problems, you should first review the relevant lecture and spend some time to do it on your own and then refer to the solution. I would recommend that you stop by my office hours to clarify any questions you might have as these questions will help you prepare better for the exams.

**Quizzes**

There will be four in-class quizzes. It will be open book and open lecture notes and will be given at the beginning of class (according to the course schedule at the end). Out of four quizzes, the *highest three* will count towards your final grade. In other words, you do not need to take all four quizzes. The quizzes must be taken on the dates they are given. There will be no make-up quiz and there is no exception for that. The main reason that I drop the lowest quiz is to accommodate those situations where you may not be able to make it to class on the day of one of those quizzes. Other details about the quiz will be announced through Blackboard. You must bring a blank Scantron, #2 pencils and a calculator to each quiz.

**Case studies**

You are required to submit a report for two of the case studies (Case 2 and 4 as indicated below in the course schedule). For these two case studies, you will be working in groups, but will be required to turn in only one report at the beginning of class. Further details about the format together with some guiding questions will be posted for each of these cases under the ‘Assignments’ folder on Blackboard a week before the due date.

For the other two cases (Case 1, 3 and 5), you are required to go through them on your own and be ready to discuss it in class. You will not be required to submit a report for these case studies; yet your preparation and quality of your answers will affect your participation grade; a few guiding questions for these cases will be posted as well (under the ‘Assignments’ folder on Blackboard).

Here is a list of all the case studies for this class with detailed information on how to obtain them. You should refer to the “Course Schedule” for the due date of each:

**Case1:** “Barilla SpA (A)”
This case is available in your textbook at the beginning of Chapter 5 “Value of Information” on page 143. (By Janice H. Hammond of Harvard Business School)

**Case2:** “Hamptonshire Express”
This case is provided by Harvard Business School publishing (Case number:698053-PDF-ENG) and is available at the coursepack created for you at [https://hbsp.harvard.edu/import/654347](https://hbsp.harvard.edu/import/654347)

**Case3:** “Making Supply Meet Demand in an Uncertain World”
by Marshall L. Fisher, Janice Hammond, Walter R. Obermeyer and Ananth Raman (May-June 1994). This is a Harvard Business Review (HBR) article and you can obtain it through the E-Journal finder on the library’s website.

**Case4:** “AmazonFresh: Rekindling the Online Grocery Market”
This case is provided by Harvard Business School publishing (Case number:615013-PDF-ENG) and is available at the coursepack created for you at https://hbsp.harvard.edu/import/654347

Case 5: “Wal-Mart Changes Tactics to Meet International Tastes”
This case is available in your textbook at the beginning of Chapter 10 “Global Logistics and Risk Management” on page 309. (By Jonathan Friedland and Louise Lee: Source: The Wall Street Journal)

Games, Simulation and Reading Assignments
To facilitate your learning and help communicate some of the fundamental concepts for certain topics, we will play the following games and run one simulation (the corresponding schedule is provided in the ‘Course Schedule):

Game 1: “Inventory Management Game”
This is an in-class game you will play as a group (randomly assigned) on week 2. You should read the hand-out (will be posted on Blackboard under Lecture 2) and familiarize yourself with the game and its objectives.

Game 2: “Beer Game”
This is an on-line game provided by Responsive Learning Technologies. You need to first register for the game at eb.responsive.net/in/altug and you will need the course code (‘barrels’) to access the game. You will play this game with your (case) group in class. You are expected to read the hand-out which will be posted on Blackboard under Lecture 4 and prepare for the game before class.

Game 3: “Customer Valuation Game:
This is another in-class game we will play at the very beginning of session six. You are just required to go through the brief hand-out and familiarize yourself with the game setup.

Supply Chain Simulation:
This is an on-line simulation and is provided by Responsive Learning Technologies. The students should first register at mgr.responsive.net/Manager/ShowClient and then purchase individual access codes. The institution name is "George Mason University" and the product is titled "SC + eB Code for Professor Altug". The students should then register their teams (these are your case groups) at op.responsive.net/sc/altug/start.html and the course id is ‘barrels’. Your group name should be “sgroupx” where “x” is your group number (will be on BB). Once I introduce you to the game at the end of session 10 (Nov 5th), the game will start at 10pm that day. You have one week to play the game with your group and turn in a printed report (on Nov 12th) at the beginning of class with all the names. Please make sure that you take notes of your strategic actions throughout the game as you will be graded based on your overall profitability and the quality of the strategic actions you take. Note that teams without a strategy (e.g., do nothing) will obtain zero points from their game report. I will post a detailed description of the game, as well as past demand data for forecasting purposes.

Other than the hand-outs for these games and simulation, for some of the classes, you may have brief reading assignments (such as some articles I may send out on the subject) or short cases.
You are required to read them before coming to class which may be used to stimulate further discussion on that week’s topic.

**In-Class Participation and Classroom Rules**
Class discussion is an important part of the learning process. To stimulate a rich-class environment, it is important to come prepared for the class. Active participation is expected throughout the entire class with thoughtful contributions to advance the quality of the discussion. You will have plenty of opportunities throughout the semester to contribute to that in various ways:

i) You will be assigned several case studies together with some discussion questions for each case. While you are not required to submit a report for all the case studies, I expect all of you to be prepared to discuss them in class. Meaningful contributions to class discussion include any comments, questions or analyses which advance the general class understanding of the case concept or issue. Sometimes I may start a discussion and then call on one of you to lead it.

ii) As you will notice, I may cover some of the topics by asking questions to understand your points of view, and then use your answers as building blocks to reach a conclusion or get the main message across. Some of those questions may require precise answers, perhaps based on earlier lectures, while others may be quite open-ended.

iii) You need to prepare for the games we will play in class and you are expected to contribute to discussions before and after we play the game.

iv) We will also hold discussions based on some of the reading assignments.

Although attendance will be taken, it will not automatically translate into perfect participation score. Similarly, a student who had to miss a class or two but was otherwise a very active participant during the classes he/she attended will not lose points either. In any case, the quality of your comments will be more important than the quantity.

It is expected that you are courteous and professional to both your instructor and classmates. This includes, but is not limited to, turning off your cell phone during class. Being constantly late and any kind of unprofessional and disruptive behavior (which includes browsing Internet, doing unrelated work and frequently leaving your seats) will negatively affect your participation grade.

**Exams**
There will be an in-class midterm and a (cumulative) final exam. These exams are closed book and closed notes. I will provide a formula sheet and the necessary tables. You must bring a blank Scantron, #2 pencils and a calculator to each exam (cell phones, tablets, laptops will not be permitted at any time during the exams). Exams must be taken on the date they are given. NO MAKEUPS WILL BE GIVEN without a valid, per university policy, documented excuse and it has to be communicated in advance and confirmed by the professor. Not showing up on the date of the exam without professor’s approval (or sending a last-minute email) will result in a zero grade. If you cannot take the midterm or final exam at the time shown on the schedule, you should not take this class.
Project
The main goal of the project is for you to explore how some of the supply chain management (SCM) concepts and techniques you have learnt applies to real business. While I keep the project topic flexible, I will give you some ideas and strategies that you can use to frame your project. The project is a group assignment. There will be two deliverables for the project: (i) a report (subject to a 6-page limit, 1 inch margins, 1.5 spaced, 11 point font excluding the appendices due on December 3rd 7PM), and (ii) a 10-minute presentation (including questions) on the last day of class (December 3rd). You must also turn in a short proposal (not more than one-page) of your project on October 8th (will not be graded) that explains your topic/problem and what your plans are to finalize your project.

When formulating the topic of your project, you can take one of the following perspectives:

- SCM consultant: Choose a business (local or otherwise), which could benefit from SCM ideas. If you were hired as an SCM consultant, what kind of SCM initiatives would you implement? Explain how this business would benefit from such initiatives. Do you foresee any implementation challenges and risk factors?

- Industry analyst: Focus on an industry that is of interest to you (e.g. retail, electronics, auto etc). By gathering information from a few companies in this industry, do a comparative study of the SCM practices and opportunities. If you think SCM is not being used to its full potential, explain what other SCM ideas have further potential in this industry. If SCM is being used extensively, make an assessment of their effectiveness and discuss the driving force behind differences among firms. How would new technologies (e.g., blockchain, autonomous robots, 3D printing etc.) affect and shape supply chains in this industry?

- Entrepreneur: Develop a business plan for a new company which provides or utilizes SCM solutions. Describe how you will make your business operational and differentiate from competitors.

- Innovator: Do you have this next great idea for an SCM solution that many businesses can benefit from? Describe your idea and make a pitch for its value proposition.

Your project grade will be based on four components: (30%) breadth and depth of research (the quantity and quality of material you find concerning your topic); (30%) quality of analysis; (20%) quality of writing (including proper citations); and (20%) quality of class presentation.

Grading
Your overall course grade will be based on:

In-class quizzes: 10%
Case study and game reports: 15%
Midterm: 20%
Final: 35%
Class participation: 10%
Project: 10%
Grading Scale
A: 93-100  B+: 87-89  B: 80-82  C: 73-76  D: 60-69
A-: 90-92  B: 83-86  C+:77-79  C: 70-72  F: < 60
I will analyze the overall scores at the end of the semester and will make a decision to see if a curve is necessary, but I will curve only to help your grades and not to raise the minimum requirement.

Communication

- I communicate remotely with students only by GMU e-mail. I will not reply to voice mail messages left on my GMU office telephone.

- For security and confidentiality, I will only reply to GMU e-mail addresses. E-mail from Yahoo, Gmail, Hotmail, or other free email providers will be deleted without reply.

- I will only reply to student e-mail that is signed with your full name.

Please come and see me during my office hours as soon as you have any questions about the material and please don’t wait till one day before the exam. If you have any questions about your grade, you should contact me within the first week the grades are posted and please bring any other issues you may have to my attention as soon as they arise.

Technology
During class you are allowed to use a laptop or a tablet only for note-taking purposes. If during the class you are seen using your laptop or tablet for any other purpose, you will be asked to turn off your device. Note that everything you need to be able to follow the course will be projected and written on board; hence, the participation grade of those of you who are constantly busy with their laptops/tablets (even when the professor is solving a problem on board, for example) will be negatively affected.

Groups
Please group yourselves into teams of four by the second week of class. You can use your existing group from previous classes if you have already formed one. Please email me (and cc your TA) your team list so I can create groups on BB and possibly assign others to your group if necessary. Every team member should contribute equally to its group reports. You are expected to be in constant communication with your group members and be prepared for every group meeting. I will ask you to perform a peer review of your team members at the end of the semester and will make adjustments to the case/project/game grades based on your comments.

Disability
Any student with special needs should bring them to the instructor’s attention no later than the second week of class. For students with any disabilities, please also contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS. For more information, please visit ODS’s home page: http://ods.gmu.edu/.
Honor Code
Students are obligated to strict adherence to the University honor system and code as stated in the University Catalog. Any violations of the honor code will result in an immediate filing of formal charges with the University Honor Committee which will be aggressively pursued with great vigor. For more information on the University’s Honor Code, please visit https://oai.gmu.edu/mason-honor-code/. The list with The School of Business Recommendations for Honor Code Violations can be found on Blackboard, in the Syllabus section of the class.

Other Useful Resources
- University Catalog: http://catalog.gmu.edu/
- University Policies: http://universitypolicy.gmu.edu/
- Calendar of Religious Holidays and Observations: http://ulife.gmu.edu/calendar/religious-holiday-calendar/
- Office of Diversity, Inclusion and Multicultural Education: https://odime.gmu.edu/
- University Registrar (Calendars): http://registrar.gmu.edu/calendars/
- Counseling and Psychological Services: http://caps.gmu.edu/
- Learning Services: http://caps.gmu.edu/learning-services/
- University Career Services: http://careers.gmu.edu/
- The Writing Center: http://writingcenter.gmu.edu/
- University Libraries: http://library.gmu.edu/
- InfoGuides (Business): http://infoguides.gmu.edu/business
- School of Business, George Mason University: http://business.gmu.edu/
- ISOM Area, School of Business, George Mason University: http://business.gmu.edu/academic-departments/isom
## Course Schedule (Tentative)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Quizzes</th>
<th>Deliverable</th>
<th>Preparation</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug 27</td>
<td>Introduction</td>
<td></td>
<td></td>
<td>Short case: Dell</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>Sep 3</td>
<td>Inventory Management</td>
<td></td>
<td>Create and email Groups (to Prof &amp; TA)</td>
<td>Inventory Game</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Sep 10</td>
<td>Inventory Management</td>
<td>Quiz 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sep 17</td>
<td>Information Sharing in Supply Chains</td>
<td></td>
<td></td>
<td>Case 1 Beer Game</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>5</td>
<td>Sep 24</td>
<td>Supply Chain Coordination and Contracting</td>
<td>Case 2 report</td>
<td></td>
<td></td>
<td>Chapter 4</td>
</tr>
<tr>
<td>6</td>
<td>Oct 1</td>
<td>Customer Value, Pricing and Supply Chain Management</td>
<td>Quiz 2</td>
<td></td>
<td>Customer Valuation Game</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Oct 8</td>
<td>Forecasting</td>
<td>Project proposal</td>
<td></td>
<td></td>
<td>Case 3</td>
</tr>
<tr>
<td>8</td>
<td>Oct 22</td>
<td>Midterm</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Oct 29</td>
<td>Industry specific supply chains:</td>
<td></td>
<td></td>
<td>Case 4 report</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Retail Supply Chains</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Defense/Service Supply Chains (Guest speaker)</td>
<td></td>
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<tr>
<td>10</td>
<td>Nov 5</td>
<td>Network Design, Transportation and Distribution Management</td>
<td>Quiz 3</td>
<td></td>
<td></td>
<td>Chapter 3</td>
</tr>
<tr>
<td>11</td>
<td>Nov 12</td>
<td>Global Logistics, Outsourcing and E-procurement</td>
<td>SCM game report</td>
<td></td>
<td></td>
<td>Chapter 6 and 7</td>
</tr>
<tr>
<td>12</td>
<td>Nov 19</td>
<td>Sustainability and Emerging Topics in Supply Chain Management</td>
<td></td>
<td></td>
<td>Short class presentations on an assigned topic</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Nov 26</td>
<td>IT, Decision Support Systems and Recent Advances in SCM (Guest speaker)</td>
<td>Quiz 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Dec 3</td>
<td>Project Presentations/Course review</td>
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</tbody>
</table>

Final exam will take place on the date (between December 11-18) announced by the University Registrar’s Office