

King Fahd University of Petroleum and Minerals
KFUPM Business School
Department of Information Systems and Operations
Management

**Course Syllabus for (OM 514) Supply Chain Inventory
Management**

First Semester 2025-2026 (251)

Instructors: **Mr. Hussain A. AlBahrani**
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Class Room: 24/129
Class Hours: **UT 18:45 - 20:00**

Office Hours: UT 4:45 - 5:15 PM

Textbooks and Study Resources

1. Book 1: (Main textbook) ***Introduction to Materials Management***. Steve Chapman, Tony K. Arnold, Ann K. Gatewood, Lloyd Clive, Pearson, 2016.
2. Book 2: ***Supply Chain Management: Strategy, Planning and Operations***. Sunil Chopra and Peter Meindl, Pearson 2018 (7th edition)
3. Book 3: ***Inventory Control and Management***. Donald Waters, Wiley, 2nd Edition

Course Description:

Inventory is a key driver and performance measure in supply chains. It covers the flow of materials from suppliers to customers, managed through planning and control to meet service levels. This includes forecasting, demand management, production and inventory planning, master scheduling, and systems for both independent and dependent demand. Methods like MRP (push) and JIT (pull) are applied, supported by computer tools, case studies, and industry projects.

Course Objective:

To equip students with practical knowledge and modern tools to manage, analyze, and optimize inventory in dynamic supply chains, enabling them to adapt to current challenges and future trends. Students will develop:

- Insight into managerial practices for using inventory to enhance efficiency, responsiveness, and sustainability in supply chains.
- Skills in data-driven decision-making through the use of digital tools for procuring, visualizing, reporting, and analyzing inventory data.
- Competence in applying optimization and AI-powered models to improve forecasting, control, and planning of inventory.

Course Format:

To accomplish the course objectives, the course format will include **lectures, case study, articles, simulations and class discussions**. Lectures will highlight and clarify important material in the text. Students are required to read the assigned materials before and after each class. Case study/articles assignments will be assigned by instructors. In addition, real world experiences will be provided from the local industry.

Class Preparation:

Preparation for each class involves reading the assigned chapter(s), attending classroom lectures, and completing the assigned tasks.

Course Outline:

Week	Topic/Chapter	Notes
1	Course introduction Introduction to Inventory Management / Inventory Control	
2	Basic Inventory Concepts / Inventory Classification	
<u>3</u>	Demand and Forecasting	Practical Sessions (Excel)
<u>4</u>	Master Scheduling	
<u>5</u>		<u>Tuesday 23rd Sep. National Holiday</u>

6	Material Requirement Planning (MRP)	Practical Sessions (Excel)
7	Reaction Paper (Toyota Motor Corporation JIT Management)	
8		
	<u>October 14th Mid-Term Exam</u> (during class time)	
9	Performance Measurement & KPIs	
<u>October 26th – October 30th Mid-Term Break</u>		
10	Technology in Inventory Management	
	Risk and Uncertainty in Inventory	
11	Aggregate Production Planning Case Study Presentations	Practical Sessions (Excel)
12	Just-in-time and Lean Production Case Study Presentations	
13	Inventory Control Systems Case Study Presentations	Practical Sessions
14	Final Simulation Tasks (Real-Games Simulation)	
15	Final Simulation Tasks (Real-Games Simulation)	

Due Dates:

Task	Due Date
Reaction Paper	October 5, 2025 11:59 PM
Case Study Presentations	November 8, 2025 11:59 PM
Real-Games Simulation Final Submissions	

Grade Policy Grades should represent both the understanding of required concepts, and the ability to demonstrate competence in required skills. Grades represent both absolute and relative measures of student achievement in OM 514.

The course will follow standard grading systems as follows:

A+	95 - 100
A	90 - 94.9
B+	85 - 89.9
B	80 - 84.9
C+	75 - 79.9
C	70 - 74.9

D+	65 - 69.9
D	60 – 64.9
F	59.9 and below

There are six components of the grade for this class. The distribution of the points for these components is as follows:

Attendance & Participation	10%
Case Study presentation	10%
Reaction Papers	10%
Final simulation	20%
Midterm Exam	25%
Final Exam	25%

TOTAL	100%
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Groups of 3 - 4 students will be formed at the beginning of the semester. The group will work together to work and present the case studies assigned as shown in the course plan above.

For exams, make-ups will be arranged for students missing the exam ONLY for an excused official reasons. Please send your instructor an e-mail before exam so that the make-up can be arranged.

The questions in the exam will be related to the topics covered in the class lectures, cases and articles. The student should expect all types of questions such as MCQ, T&F, short answers, calculations and essay questions.

Attendance and Participation:

For participation, it is very important for each student to get engaged in class discussions and raising questions and arguments related to the topics discussed. In certain days we will have article/cases to be discussed where each student is expected to actively participate in such session.

How to study for the course:

- Dedicate time each day to engage with the course material, regardless of whether a class session is scheduled.
- Take clear, organized notes during lectures and review them regularly, cross-referencing with the textbook.

- Actively work through examples presented in class by solving them independently as they are discussed.
- Read the relevant textbook chapters in advance of class discussions to build familiarity with the material.
- Carefully study and review the examples provided in the textbook to reinforce understanding.
- Attend all classes consistently; avoid arriving late or being disengaged during lectures.
- Maintain focus and attentiveness throughout lectures to fully grasp the topics being covered.

Note : The instructors reserve the right to modify the schedule or syllabus as necessary. Adjustments may be made to accommodate time constraints or unforeseen circumstances.