

Saint Leo University

MGT 417

Logistical Inventory Control and Materials Management

Course Description:

This course focuses on the role of materials management in modern organizations, the methods of forecasting demand, the assessment of economic lot sizes, and the procedures for optimizing ordering systems and inventory levels.

Prerequisite:

MGT 309 and GBA 334

Textbook:

Chapman, Arnold, Gatewood & Clive (2017). *Introduction to materials management* (8th ed.). Upper Saddle River, NJ: Prentice Hall. ISBN: 9780134156323

Learning Outcomes:

1. Evaluate inventory methods, make just-in-time improvements in current systems, determine optimum inventory levels, design and implement cycle length and cycle-counting systems, and analyze replenishment policies.
2. Understand the different principles for determining inventory cost parameters, such as inventory holding costs, capital tie up costs, stock out costs, and production set up costs commonly used in inventory control, safety stock, and backorder models – and is able to calculate factor variables for each of these parameters.
3. Be able to explain and apply quantitative models for the control of single stage inventory systems with uncertain customer demand and uncertain lead times – all involving the computation of various customer service levels and stock out risks and their expected costs – and all involving the optimization of control parameters like reorder points, order quantities, and safety stock levels.
4. Analyze the tradeoff between holding active stocks in anticipation of a customer arrival to trigger a stockout or backorder situation – with the resultant need to hold the customer loyal and satisfy with an expedited, accelerated delivery of the product.
5. Internalize and practice the Saint Leo core values of: excellence, respect, responsible stewardship, personal development, and integrity.

Core Values:

Excellence: Saint Leo University is an educational enterprise. All of us, individually and collectively, work hard to ensure that our students develop the character, learn the skills, and assimilate the knowledge essential to become morally responsible leaders. The success of our University depends upon a conscientious commitment to our mission, vision, and goals.

Respect: Animated in the spirit of Jesus Christ, we value all individuals' unique talents, respect their dignity and strive to foster their commitment to excellence in our work. Our community's strength depends on the unity and diversity of our people, on the free exchange of ideas and on learning, living, and working harmoniously.

Responsible Stewardship: Our Creator blesses us with an abundance of resources. We foster a spirit of service to employ our resources to university and community development. We must be resourceful. We must optimize and apply all of the resources of our community to fulfill Saint Leo University's mission and goals.

Personal Development: Saint Leo University stresses the development of every person's mind, spirit, and body for a balanced life. All members of the Saint Leo University community must demonstrate their commitment to personal development to help strengthen the character of our community.

Integrity: The commitment of Saint Leo University to excellence demands that its members live its mission and deliver on its promise. The faculty, staff, and students pledge to be honest, just, and consistent in word and deed.

Evaluation:

Assignment	Weight
Discussion Questions (7)	15%
Case Studies (5)	30%
Quiz	5%
Midterm Exam	25%
Final Exam	25%
Total	100%

Grading Scale:

Grade	Score (%)
A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	60-66
F	0-59

Discussions

In Modules 1-7, students will post an initial response to a discussion question that is posted on the Discussion Board **no later than Thursday 11:59 PM EST/EDT**. Students will also post a response to at least two classmates **no later than Sunday 11:59 PM EST/EDT** of each module.

Case Studies

Case studies are due in Modules 1, 2, 3, 5, and 6. Assignment details are located on the module page in which the Case Study is due.

Submit each Case Study to the appropriate Assignment box **no later than Sunday 11:59 PM EST/EDT** for each respective module. (These Assignment box baskets are linked to Turnitin.)

Midterm Exam

Students will complete the Midterm Exam in Module 4. This exam consists of 50 multiple-choice questions and students will have 2.5 hours to complete it.

Complete the Midterm Exam **no later than Sunday 11:59 PM EST/EDT**.

Quiz

Students will complete a Quiz in Module 7. The quiz consists of 30 multiple-choice questions from Modules 5, 6, and 7. Students will have 2 hours to complete it.

Complete the Quiz **no later than Sunday 11:59 PM EST/EDT**.

Final Exam

This exam consists of one case study and students will have 3 hours to complete it. Students must be certain to have their **textbook open and ready** as they will need to read the case. They must follow the directions provided with the **questions in the exam** to answer the questions associated to the case.

For the Final Exam, in addition to completing the questions in the space provided inside the exam, students **must also submit all documents (i.e., Excel Workbook and Word Document) to the Final Exam Assignment box within 15 minutes of submitting the exam**. Assignment box submissions are time stamped so the instructor will know if the exam was submitted more than 15 minutes after completing it.

Once the exam has been submitted, **students must not make any changes to their answers**. The instructor may deduct points if the answers submitted in this exam are not identical to the questions submitted to the Assignment box. Title the documents as follows:

FirstName_LastName_MGT417_Final_Exam.xlsx
(e.g., Jane_Smith_MGT417_Final_Exam.xlsx)

FirstName_LastName_MGT417_Final_Exam.docx
(e.g., Jane_Smith_MGT417_Final_Exam.docx)

Complete the Final Exam **no later than Sunday 11:59 PM EST/EDT**. (This Assignment box basket is linked to Turnitin.)

Assessment of the Learning Outcomes:

Learning Outcome	Assessment Method(s)
1	Case Study 1; Discussion Question 1; Case Study 2; Case Study 3; Discussion Question 3; Midterm Exam
2	Case Study 3; Discussion Question 3; Module 5 – Case Study 4; Discussion Question 5; Module 6 – Case Study 5/Discussion Question Midterm Exam
3	Module 6 – Case Study 5/Discussion Question Module 7 – Case Study 6/Discussion Question Quiz; Final Exam
4	Module 3 – Case Study/Discussion Question Module 7 – Case Study/Discussion Question Final Exam
5	Excellence: Case Study 2; Midterm Exam; Quiz; Final Exam Respect: Case Study 3; Midterm Exam Responsible Stewardship: Case Study 1; Case Study 2; Case Study 3; Midterm Exam; Quiz; Final Exam Personal Development: Final Exam Integrity: Modules 1 through 8 – Case Study; Discussion Question; Midterm Exam; Quiz; Final Exam

Course Schedule:

Module 1 Materials Management and Production Planning Systems

Objectives

When you complete this module, you should be able to:

- Describe and explain the three essential elements of a material flow system.
- Discuss and explain the three basic strategies of developing a production plan.
- Write and differentiate between production plans.

Assignments

Items to be Completed:	Due No Later Than:
Post an introduction to the class	Thursday 11:59 PM EST/EDT
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Case Study 1	Sunday 11:59 PM EST/EDT

Module 2 Scheduling and Requirements Planning

Objectives

When you complete this module, you should be able to:

- Discuss and classify the major functions of Master Production Scheduling.
- Explain and discuss the function and requirements of Material Requirements Planning.
- Explain the necessity of accurate Bills of Material and Inventory Records to the MRP process.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Case Study 2	Sunday 11:59 PM EST/EDT

Module 3 Capacity Management and Production Control

Objectives

When you complete this module, you should be able to:

- Define and explain the purpose of capacity management.
- Explain the relationship between capacity requirements and material requirements planning.
- Explain and analyze production activity control as it relates to the material requirements plan.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Case Study 3	Sunday 11:59 PM EST/EDT

Module 4

Purchasing, Forecasting and Demand Management

Objectives

When you complete this module, you should be able to:

- Compare and contrast the various aspects of the purchasing process as it relates to material management.
- Examine and explain forecasting as a tool of material management.
- Define and explain qualitative, intrinsic, and extrinsic methods of forecasting.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete the Midterm Exam	Sunday 11:59 PM EST/EDT

Module 5

Inventory Fundamentals and Order Quantities

Objectives

When you complete this module, you should be able to:

- Discuss and explain the benefits and costs associated with inventory.
- Compare and contrast the cost of ordering and the cost of carrying inventory in the economic order quantity method.
- Demonstrate a comprehensive evaluation of ordering policies.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Case Study 4	Sunday 11:59 PM EST/EDT

Module 6 Demand Ordering and Inventory and Warehouse Management

Objectives

When you complete this module, you should be able to:

- Identify and explain the issues associated with when to order with regard to material management.
- Illustrate and discuss warehousing as a strategic activity.
 - Write a time-phased plan for warehousing.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Case Study 5	Sunday 11:59 PM EST/EDT

Module 7 Distribution, Products, and Processes

Objectives

When you complete this module, you should be able to:

- Explain the physical distribution channels.
- Explain the importance of third party logistics providers.
- Explain the simplification, standardization, and specialization principles.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	
Post an initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Complete the Quiz	Sunday 11:59 PM EST/EDT

Module 8 Lean Production and TQM

Objectives

When you complete this module, you should be able to:

- Analyze, compare, and contrast a lean production plan with an alternative solution.
- Using Pareto analysis, analyze data for correction.
- Prepare reports for managers to correct deficiencies.

Assignments

Items to be Completed:	Due No Later Than:
Read the assigned materials	
View Audio Visual Presentation (AVP)	

