



Course Number and Title: LOM 242 Supply Chain Logistics II

Campus Location:

Georgetown, Wilmington

Effective Date:

2021-51

Prerequisite:

LOM 241

Co-Requisites:

None

Course Credits and Hours:

3.00 credits

3.00 lecture hours/week

1.00 lab hours/week

Course Description:

This course adds quantitative analysis to the basic concepts of supply chain management learned in Supply Chain Logistics I. Topics include the integration of inventory strategy and policy through demand management, sales, inventory, and operations planning (SI&OP), master production scheduling (MPS), and materials requirements planning (MRP). Software tools for supply chain management (Excel and Excel OM3) are taught in the lab portion of the course.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Explain and apply the principles of inventory management. (CCC 1, 4, 5, 6; PGC 1, 5, 6)
2. Explain the concept of demand management and tools used for producing and evaluating detailed forecasts. (CCC 2, 5, 6; PGC 1, 3, 6)
3. Describe sales, inventory, and operations planning (SI&OP), and demonstrate how to create, chase, level, and optimized SI&OPs. (CCC 1, 5, 6; PGC 1, 3, 6)
4. Discuss how enterprise resource planning (ERP) systems are used to integrate and connect business operations. (CCC 1, 2, 5, 6; PGC 1, 3, 6)
5. Explain how master production scheduling (MPS) is executed and managed. (CCC 2, 3, 5, 6; PGC 1, 3, 6)
6. Demonstrate how to prepare time-phased records in materials requirements planning (MRP). (CCC 2, 3, 5, 6; PGC 1, 6)
7. Explain the role of distribution requirements planning (DRP) in supply chain management. (CCC 2, 3, 5, 6; PGC 1, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Explain and apply the principles of inventory management.
 1. Describe the inventory cycle model.
 2. Calculate economic order quantity (EOQ), with and without warehouse space constraints.
 3. Use OM3 software to determine EOQ and safety stock based on probabilistic demand and lead time uncertainty.
 4. Describe ABC inventory policy and cycle counting.
2. Explain the concept of demand management and tools used for producing and evaluating detailed forecasts.
 1. Explain the differences between various demand environments.
 2. Define the role of forecasting in demand management.
 3. Describe the concepts of aggregate and pyramid forecasting.
 4. Review time-series forecasting using Excel forecasting models.
3. Describe sales, inventory, and operations planning (SI&OP), and demonstrate how to create chase, level, and optimized SI&OPs.
 1. Explain the supply-demand balance concept of SI&OP.
 2. Identify and describe the three major components of a SI&OP.
 3. Explain the role of inventory and logistics in the SI&OP.
 4. Create optimized SI&OP using Excel SI&OP models and advanced tools.
4. Discuss how enterprise resource planning (ERP) systems are used to integrate and connect business operations.
 1. Explain how ERP connects the functional units of a business.
 2. Describe how manufacturing, planning, and control (MPC) is integrated within ERP.
 3. Discuss integrated supply chain metrics enabled by ERP in terms of cash-to-cash cycle time for measuring the relative efficiency of a supply chain.
5. Explain how master production scheduling (MPS) is executed and managed.
 1. Explain the use of time-phased records, rolling through time, and order-promising techniques in MPS.
 2. Explain the role of MRP records and their relationship to the MPS.
 3. Review and link materials requirements planning worksheets to the MPS.
 4. Describe bill of materials (BOM) structures and modular BOM.
6. Demonstrate how to prepare time-phased records in materials requirements planning (MRP).
 1. Create and link properly time-phased MRP records, given a master production schedule, bill of materials, and on hand inventories.
 2. Explain how actual orders consume the forecast throughout the master production schedule and linked MRP records.
 3. Demonstrate how to account for EOQ lot sizes and safety stocks in planned order releases.
7. Explain the role of distribution requirements planning (DRP) in supply chain management.
 1. Discuss distribution requirement planning and its linkages to demand management and MPS.
 2. Explain how field warehouse demand cycles are linked to a central warehouse through time-phased DRP records.
 3. Describe management strategies for safety stock positioning in DRP.

Evaluation Criteria/Policies:

The grade will be determined using the Delaware Tech grading system:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
0	-	69	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Summative: Exams (3-5) (Equally weighted)	50%
Summative: Process Project	15%
Formative: Homework, discussion, quizzes, etc.	35%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Analyze logistics, supply chain, and operations processes in order to provide assistance in the development of quality, customer service, and cost improvement alternatives.
2. Utilize various statistical quality control techniques to aid in the development and utilization of global quality logistics, supply chain, manufacturing, and service applications.
3. Apply integrated technology-driven information necessary for logistics, supply chain and operations.
4. Perform cost analysis on proposed logistics, supply chain and operations projects and make data-driven investment recommendations to management.
5. Develop and optimize logistics and operations business processes, including job design and workplace layout.
6. Apply management functions, statistical quality and process applications, planning and scheduling techniques, and related software applications necessary for successful business decision making.
7. Apply managerial accounting, economics, human resources, and marketing principals when making workplace decisions.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.