

Foundations of Supply Chain Management

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| Primary Career Cluster: | Marketing |
| Program Manager: | Ilene D. Karp, (615) 770-3870. Ilene.D.Karp@tn.gov |
| Course Code(s): | C12H40 |
| Prerequisite(s): | None |
| Credit: | 1 |
| Grade Level: | 9-10 |
| Focused Elective Graduation Requirements: | This course satisfies one of three credits required for an elective focus when taken in conjunction with other <i>Marketing</i> courses. |
| POS Concentrators: | This course satisfies one out of two required courses that must be taken from a single program of study to meet the Perkins V concentrator definition requirements. |
| Programs of Study and Sequence: | This is the second course in the <i>Supply Chain Management</i> program of study. |
| Aligned Student Organization(s): | DECA: http://www.decatn.org FBLA: http://www.fblatn.org Steven Mitchell, (615) 532-2829, Steven.Mitchell@tn.gov |
| Coordinating Work-Based Learning: | Teachers are encouraged to use embedded WBL activities such as informational interviewing, job shadowing, and career mentoring. For information, visit https://www.tn.gov/education/career-and-technical-education/work-based-learning.html . |
| Available Student Industry Certifications: | Students are encouraged to demonstrate mastery of knowledge and skills learned in this course by earning the appropriate, aligned department-promoted industry certifications. Access the promoted list here for more information. |
| Teacher Endorsement(s): | 030, 035, 039, 052 054, 152, 153, 158, 202, 204, 311, 430, 435, 436, 471, 472, 474, 475, 476, 503, 776 |
| Required Teacher Certifications/Training: | None |
| Teacher Resources: | https://www.tn.gov/education/career-and-technical-education/career-clusters/cte-cluster-marketing.html . |

Course Description

Foundations of Supply Chain Management exposes students to careers and businesses involved in the planning, management, and movement of people, materials, and products by road, air, rail, pipeline,

and water. As an introduction to this important and globally evolving field, this course covers the basic principles of logistics, reviews the history and development of distribution networks, and examines how they function within the dynamics of the supply chain. Upon completion of this course, proficient students will explore career options; demonstrate an understanding of the historical, current, and future significance of supply chain industries; and plan for the effective and efficient flow of goods and services. This course will require extensive Microsoft Office applications including but not limited to PowerPoint creation; use of templates; spreadsheet manipulations; and designing of charts, graphs, formulas, and tables.

Program of Study Application

This is the foundational course in the *Supply Chain Management* program of study. For more information on the benefits and requirements of implementing this program in full, please visit the Marketing website at <https://www.tn.gov/education/career-and-technical-education/career-clusters/cte-cluster-marketing.html>.

Course Standards

Occupational Safety

- 1) Examine personal and environmental safety practices associated with the appropriate handling, storage, and distribution of materials in accordance with local, state, and federal safety and environmental regulations. Identify safe operating procedures used in manufacturing facilities, office buildings, warehouses, and transportation areas, including personal protective equipment requirements. Research the role of Occupational Safety & Health Administration (OSHA) in industry and supply chain management.

Career Investigation

- 2) Identify and analyze career pathways within the supply chain industry. Cite supporting evidence from multiple career information sources, such as O*NET OnLine, to summarize the essential knowledge and skills required for these careers. Complete one or more career aptitude surveys, analyze the results, and compose an essay describing the relationships between personal career aptitudes and careers in Supply Chain.
- 3) Compile and analyze real-time and projected labor market data from public sources such as the U.S. Bureau of Labor Statistics to investigate local and regional occupational opportunities and trends in the field of supply chain. Utilizing Microsoft Excel, synthesize collected data to develop a graphic illustration comparing occupations by education requirements, job availability, job projections, salaries, and benefits for the local community, the state, and the nation.

Supply Chain Functions

- 4) Define the term *supply chain* and determine the role supply chain management decisions have on cost-effective ways of delivering a product or service to consumers. Identify the supply chain processes that are required to fulfill a customer request, including but not limited to: new product development, planning, buying, manufacturing operations,

marketing, distribution, and customer service. Develop a graphic illustration of a selected product and map the movement of primary inputs and outputs on a global or local scale.

- 5) Research and describe the four major flows—product flow, information flow, financial flow, and risk flow—that occur in a supply chain. Analyze the impact that each has on the supply chain as a whole and the interactions that must occur between the flows. Demonstrate ability to use Microsoft Office to create documents used throughout the four major flows including:
 - a. request for proposal (RFP) or request for quotation (RFQ).
 - b. purchase order,
 - c. invoice,
 - d. inventory counts,
 - e. delivery schedules, and
 - f. payment schedules.
- 6) Differentiate between the internal supply chain and external supply chain of an organization, including internal and external customers. Write an informative paper and accompanying graphic that describes how the two chains are interrelated.
- 7) Research the following terms as related to supply chains: *lean*, *green*, and *sustainable*. Define and describe each term and give examples of ways they are implemented in a supply chain.
- 8) Create a glossary of terms related to supply chains and their management. Include acronyms. Add new terms to the glossary as they are encountered.
- 9) Gather and analyze information from multiple authoritative sources (i.e., industry magazines, academic journals) to explain how the following functions work together to support the final product/service being received by the customer at an optimal price-point:
 - a. procurement of raw materials,
 - b. selection of suppliers,
 - c. transportation,
 - d. warehousing/product storage,
 - e. inventory control,
 - f. material handling,
 - g. information and communication systems, and
 - h. employment/staffing processes.

Supply Chain as a Component of Marketing

- 10) Define the term *marketing*. Describe each core function of marketing (i.e., channel management, marketing information management, market planning, pricing, product service management, promotion, and selling).
- 11) Examine the marketing mix and the 4 Ps of marketing (product, place, price, and promotion). Describe how supply chain management relates to the 4Ps of marketing. Explain how supply chain management is affected by and can affect supply and demand equilibriums. Utilize

Microsoft Office programs to compile and present findings via a formal presentation complete with slideshows and charts as visuals.

Components of Supply Chain Management

- 12) Research the components of supply chain planning. Using Microsoft Office software, create a diagram depicting a network for a hypothetical product, labeling all of the nodes (fixed spatial points where goods stop for storage or processing) and links (the transportation network that connects the nodes) in the network. Prepare an accompanying paper or presentation that explains the diagram and describes what is happening at each node.
- 13) Explore the five modes of transportation (truck, train, plane, ship, pipeline) used to move materials by land, air, or sea. Identify at least one carrier or service provider from each of the five modes of transportation. For each mode of transportation, analyze the costs, benefits, and problems associated with that mode of transportation, including environmental impact. List items that are most often transported by each type of transportation. Calculate the cost for various shipments using different shipment methods. Depict a comparison of the costs related to shipment methods using Microsoft Excel.
- 14) Examine the various types of facilities involved in the supply chain of each type of business: manufacturer, retailer, and service. Describe how materials and information feed into and flow from each type of facility in an illustrated paper. Include the following categories, as well as hybrid facilities where these categories overlap:
 - a. office buildings/management headquarters,
 - b. factories,
 - c. package handling center,
 - d. warehouse or fulfillment center,
 - e. cross-dock facility, and
 - f. bulk break center.

Management and Information Technology

- 15) Investigate the tools and processes used by companies to manage the flow of inputs and outputs within a supply chain. Determine how barcodes, radio frequency identification (RFID), unique identification (UID), and tagging methods (active and passive) are employed in the tracking and distribution of product flow.
- 16) Determine the ways computers and other information technologies are used in a supply chain. Create a table or chart listing technologies/software that are used, and describe how they improve supply chain function. For example, discuss the impact of automated warehouses on distribution and logistics functions within a company.
- 17) Establish the contributions supply chain has on a consumer's price for a product and a company's profit/loss potential. Analyze typical business financial statements – Statement of Cash Flows, Income Statement, and Balance Sheet – to determine how supply chain costs are reported on and affect the bottom line outcomes of each financial statement. Create an

infographic depicting how changes in supply chain costs affect final product pricing and company profitability.

- 18) Create a list of the decisions that must be made and the problems that could potentially arise in a complex supply chain. Research individual and group problem-solving and decision-making strategies applicable to each decision/problem listed. Choose one of the problems listed, apply knowledge of supply chain management, and prepare a presentation recommending a solution.

History and Development of Distribution and Logistics

- 19) Synthesize research from informational texts to create an annotated timeline on the history of distribution and logistics. Using descriptive text, identify cultural, social, economic, and technological factors that have influenced the development of distribution and logistics.
- 20) Analyze the importance of distribution and logistics in a global society and discuss how the concept of U.S. protectionism affects supply chain management. Investigate the influences of customer demands, ordering and managing inventory, forecasting, controlling inbound and outbound shipments, reducing costs, and saving time in product and service flow. Prepare an explanation of how international trade agreements affect each of these.
- 21) Deliver an informational presentation describing the importance of supply chain to the overall success of businesses. Include an analysis of the ways companies can gain a competitive advantage using logistics to distribute their products and services. Research media profiles of businesses that made their operations more sophisticated through the use of logistics management, and explain the factors that contributed to their success.

Case Study

- 22) Synthesize information from industry, scholarly, and popular media sources outlining how a top 20 retailer has used supply chain management to become one of the largest retailers in the world. Create a presentation describing how the retailer handles the following areas of its global supply chain network:
 - a. customer service,
 - b. distribution costing,
 - c. distribution planning,
 - d. information technology,
 - e. materials and purchasing management,
 - f. order processing systems, and
 - g. transport and inventory management.

Standards Alignment Notes

*References to other standards include:

- P21: Partnership for 21st Century Skills [Framework for 21st Century Learning](#)

- Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.