Tennessee CTE

Foundations of Supply Chain Management

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.** 1
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.** 2
	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. 3
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.** 4
	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: 5 a. request for proposal (RFP) or request for quotation (RFQ). 5.A

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b purchase order, 5.B

c invoice, 5.C

d inventory counts, 5.D

e delivery schedules, and 5.E

f payment schedules. 5.F

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.** 6

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.** 7

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.** 8

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:** 9

a procurement of raw materials, 9.A

b selection of suppliers, 9.B

c transportation, 9.C

d warehousing/product storage, 9.D

e inventory control, 9.E

f material handling, 9.F

g information and communication systems, and 9.G

h employment/staffing processes. 9.H

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).** 10

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.** 11

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Co Chain Management

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. 12

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.** 13

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:** 14

a office buildings/management headquarters, 14.A

b factories, 14.B

c package handling center, 14.C

d warehouse or fulfillment center, 14.D

e cross-dock facility, and 14.E

f bulk break center. 14.F

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.** 15

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.** 16

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.** 17

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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.** 18

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.** 19

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.** 20

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.** 21

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:** 22

a customer service, 22.A

b distribution costing, 22.B

c distribution planning, 22.C

d information technology, 22.D

e materials and purchasing management, 22.E

f order processing systems, and 22.F

g transport and inventory management. 22.G