

# **Appendix W**

## **TRANSPORTATION, DISTRIBUTION AND LOGISTICS YOUTH APPRENTICESHIP**

### **LOGISTICS/SUPPLY CHAIN MANAGEMENT (SCM) PATHWAY DISTRIBUTION & TRANSPORTATION OPERATIONS (UNIT 15)**

# Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

## 1. Assist to plan distribution of products

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite
- while assisting a worksite professional

Performance Standard Criteria

**Performance will be successful when learners:**

- Estimate types of containers, quantity, weight, storage requirements, etc., of items to be distributed
- Plan loads based on types of transportation vehicles or carriers
- Review flow of products for consolidation of freight
- Determine mode of transportation

Learning Objectives

- Identify the three basic elements of a transportation system
- Identify the main methods of transporting products
- Analyze transportation trends
- Compare and contrast intermodal and auxiliary carriers (carriers all modes, 3<sup>rd</sup> party logistics providers (3PLs), forwarders, brokers, contract carriers)
- Describe the role of the government in transportation of goods
- Describe special compliance considerations for different types of goods and services
- Define distribution
- Relate distribution to marketing
- Analyze global distribution strategies for products
- Lists specific international transportation regulatory and compliance documents
- Explain how loads are estimated and compared with legal limits
- List basic categories of hazardous materials that are shipped
- Define special considerations for hazardous material transportation
- Compare the advantages and disadvantages of contracting transportation services
- Compare packing materials to determine the safest and most cost-effective method of shipping
- Compare and contrast advantages and disadvantage of owning and operating facilities versus out-sourcing
- Explain the impact of global trade on the logistics industry
- Explain some of the global market trends your facility faces and the company's position in that market place
- Explain effects of currencies on movement of goods and services in the logistics industry
- Name four major components of logistics
- Explain supply chain management
- Summarize differences between logistics and supply chain management
- Define basic logistics terminology
- Discuss/evaluate logistics industry trends

- Explain the functions of each department or unit within the larger organization
- Describe the role of sales and marketing operations in your facility

**Comments:**

## Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

### 2. Compile transportation documentation

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Determine documentation and other requirements for transportation
- Compare prices, specifications, time limitations, and delivery dates
- Communicate to internal/external customers on distributor performance
- Maintain distributor contact

Learning Objectives

- List common types of transportation documents
- Define the purpose of common shipping documents such as shipping manifest, bill of lading, purchase order, packing slip, etc.
- Describe documents necessary when shipping outside of the United States
- Interpret payment documentation (letters of credit)
- Describe types of payment methods used in international transactions
- List the elements of a valid contract
- Compare contract elements with purchase order customer requests

**Comments:**

## Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

### 3. Assist to schedule transportation of products and materials

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite
- while assisting a worksite professional

Performance Standard Criteria

**Performance will be successful when learners:**

- Review forecasts to estimate peak delivery periods and to coordinate deliveries
- Schedule transportation of products and materials to meet customer needs
- Select the most cost-effective method to ship products
- Verify that appropriate carrier or method is used to ship product
- Verify that health, safety, environmental, and government regulations are met for product shipment
- Coordinate line haul or load plan
- Arrange for storage facilities or other special product accommodations along route if needed

Learning Objectives

- Discuss how to schedule delivery functions with respect to production requirements and production levels
- Explain the process used to manage order, receipt, and delivery with a facility
- Identify basic transportation operations and costs related to freight classification, tariffs, carrier pricing schedules, rates, etc.
- List common elements of shipping costs
- Distinguish between freight forwarders, non-vessel operating common carriers (NVOCCs), and customs brokers

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **4. Ensure product is shipped on time**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Contact shipping & distribution to verify order shipment
- Update customer order status
- Monitor shipment through all phases until customer delivery

Learning Objectives

- Discuss the purpose of tracking order shipping
- Describe organizational methods used to track orders and final customer shipment
- Explain how order receipt, production, & shipment is commonly communicated
- Define factors that impact the scheduling of pick-ups and deliveries

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **5. Prepare invoice for products and shipment**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Prepare a billing invoice for products shipped to customers
- File copies of invoice as applicable
- Send invoice to customer with order or separately
- Record invoice distribution

Learning Objectives

- Describe the function of the invoice
- List common elements required on an invoice
- Explain common methods used to send invoices
- Describe how invoices are linked to requisitions, purchase orders, shipments, and payment
- Explain the purpose and uses of transportation tariffs
- List different tariff classifications
- Interpret tariffs
- Estimate duties, tariffs and levies
- Outline types of problems relating to invoicing and how they are solved

**Comments:**

## Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

### 6. Operate tools and equipment safely

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Operates only equipment that he/she is trained on
- Chooses correct tool or equipment for the task
- Verifies tool/equipment is available for use and in working order
- Verifies tool/equipment is current for preventative maintenance and/or calibration
- Verifies safety equipment and any Personal Protective Equipment (PPE) needed for tool/equipment use
- Operates tool/equipment safely with guarding devices if applicable in the manner required for the job task
- Monitors tool/equipment for safe operation while operating
- Follows facility procedures for clean up and shut down after use
- Performs any required preventative maintenance procedures
- Investigates and promptly reports abnormal tool/equipment conditions
- Properly shuts down and labels any tool/equipment that is not operating as expected, if applicable
- Follows Lock Out/Tag Out procedures as applicable
- Documents use and maintenance as required

Learning Objectives

- List the various tools and equipment used at your worksite
- Outline applications of each tool and equipment
- Describe and demonstrate the safety requirements for each tool and equipment
- Discuss start up and shut down procedures for each tool/equipment you will operate
- Explain the purpose of preventative maintenance
- Describe emergency shutdown procedures for the tool/equipment you will operate
- Explain how to recognize and address malfunctions for the tool/equipment you will operate
- Describe how to recognize wear and tear on equipment components
- List the OSHA and other regulatory requirements as they apply to the equipment that you operate
- Describe proper techniques for lifting loads
- List the safeguards that apply to the equipment used in your facility for tools, automated machines, material handling equipment, and lifts
- List which tools and equipment require safety certification
- Explain Lock Out/Tag Out indications and procedures in your facility

**Comments:**



## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **7. Inspect outgoing product packaging and labeling**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Inspect outgoing products for compliant packaging and labeling
- Ensure proper storage conditions of products during staging, loading and shipping
- Check container and packing materials to verify that they meet regulatory requirements for order
- Check container to verify that packaging has proper labeling and meets shipping and safety regulations
- Handle orders according to regulations
- Notify worksite professional when defective contents are identified

Learning Objectives

- Describe methods of export packaging
- Describe advantages and disadvantages of intermodal containers
- Demonstrate how to recognize, handle, and package hazardous materials
- Describe the labeling for specific material hazards
- Discuss compliance requirements for domestic, international and hazardous material shipping
- State what must be listed on the documentation that accompanies a hazardous materials shipment

**Comments:**

## Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

### 8. Verify packing list against actual shipment

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Verify packing slip & shipping documents against actual shipment
- Segregate and document overages, shortages, damaged or non-conforming
- Resolve any discrepancies

Learning Objectives

- List common types of information on a packing slip
- Discuss the function of verification at the loading/shipping stage

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **9. Load vehicles OR stage for courier transportation**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Load orders safely and according to regulations
- Use loading equipment safely and according to regulations
- Load transportation equipment according to loading plan
- Pack transportation vehicles to ensure no damage to shipment

Learning Objectives

- Demonstrate how to load and store hazardous materials
- List the regulations pertaining to loading of materials and supplies
- Explain how loading plans are created for different types of transportation equipment
- Describe different kinds of loading equipment and their applicable safety and regulatory use standards
- Identify safety features of loading/unloading equipment

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **10. Complete required shipping documents**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Complete required shipping documents such as packing slips, trailer manifests, hazardous materials information, bills of lading, etc.
- Organize documents for transportation workers
- Examine invoices and shipping manifests for conformity to tariff and custom regulations

Learning Objectives

- List common shipping documents and their purpose
- Outline the shipping documentation process
- Explain the use and function of cargo and shipping documents such as packing slips, trailer manifests, hazardous materials information, bills of lading, etc.
- Explain how shipping forms document compliance activities
- Describe special customs forms for international shipping
- List common international freight terms (INCO terms) and their meanings
- Research foreign and domestic government regulations for packaging and labeling
- Determine ports of entry/exit using guides
- Define international freight terms (INCO)

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **11. Assist to plan and route shipments**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite
- while assisting a worksite professional

Performance Standard Criteria

**Performance will be successful when learners:**

- Plan and route shipments
- Monitor internal fleet movement and location
- Follow forecasted plan to maximize efficiency of deliveries and pick ups
- Maintain master schedule for traffic functions based on movement of transportation

Learning Objectives

- Define the traffic management function
- Describe the following: rate activities, carrier selection, carrier routing, tracing and expediting, consolidating shipments, diversion and reconsignment, transit insurance, private carriage
- Discuss the factors to consider when planning transportation routes
- Read maps
- Describe how routing information is managed to ensure that delivery times and locations are coordinated
- Explain the role and impact of international security on product integrity and shipment movement
- Discuss issues pertaining to the Foreign Corrupt Practices Act
- Explain time zones and in the US and globally
- Convert between standard and military time

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **12. Assist to coordinate and schedule drivers, pickups, deliveries**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite
- while assisting a worksite professional

Performance Standard Criteria

**Performance will be successful when learners:**

- Schedule pickups and deliveries according to forecasted plan
- Schedule transportation couriers or drivers

Learning Objectives

- Examine the characteristics of distributing with rail, truck, air, ship
- List cost considerations for motor carrier equipment including Department of Transportation (DOT) regulations, driver training and hours of service, fuel tax, licensing, etc.
- Discuss the legal scheduling of drivers and other transportation drivers regarding hours to work
- Explain factors that must be taken into consideration when planning & coordinating specific deliveries

**Comments:**

## Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations

Competency

### 13. Determine shipment status

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Track and trace shipments through supply chain
- Expedite shipments when necessary
- Determine shipment status
- Coordinate special handling requirements

Learning Objectives

- Identify key locations for domestic and international distribution networks for your facility's product distribution system
- List circumstances requiring follow-up and/or expediting
- Describe the importance of follow up or expediting inbound supplies
- Identify common causes of loss
- Define and explain the major measures used by a logistics organization to manage and improve performance

**Comments:**

## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **14. Maintain shipping and customs records/documentation**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Manage transportation and documentation functions to ensure compliance with all regulatory import, export, hazardous materials and air regulations
- Enter records into databases
- Retrieve records
- Produce reports
- File records

Learning Objectives

- List common reports and records maintained by shipping companies
- Explain the technical systems utilized in shipping and distribution companies
- Explain the customs processes for shipping out of the United States

**Comments:**



## **Unit 15: Logistics/Supply Chain Management (SCM) Pathway Distribution & Transportation Operations**

Competency

### **15. Follow up with customer regarding shipment receipt**

Performance Standard Condition

**Competence will be demonstrated**

- at the worksite

Performance Standard Criteria

**Performance will be successful when learners:**

- Contact customer to verify order receipt
- Follow up with customer to verify that no customer complaints are received about late, partial, or damaged shipments
- Respond to customer comments and questions
- Update information accurately as applicable
- Solicit supervisor or co-worker support and advice when necessary to meet customer needs
- Handle complaints tactfully without insult or conflict

Learning Objectives

- Identify the internal and external customers in your facility
- Compare needs of internal and external customers
- Define customer service
- Describe how customer service affects a company's "bottom line"
- List strategies for maximizing customer satisfaction
- Describe the functions of other departments or units to serve the customer
- Describe facility issues that may impact customer needs being met
- Describe how plans are made to improve organizational performance including customer satisfaction and service/operations performance

**Comments:**