

MODULE CURRICULUM AND ASSESSMENT STANDARDS:

SECTION E: INTERMEDIATE LEVEL

The following pages define the curriculum and assessment standards for the intermediate level of Logistics.

Intermediate level modules help students build on the competencies developed at the introductory level and focus on developing more complex competencies. They provide a broader perspective, helping students recognize the wide range of related career opportunities available within the strand.

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MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2

Level: Intermediate

Theme: Warehousing and Distribution

Prerequisite: LOG1020 Warehouse & Distribute 1

Module Description: Students examine types of warehousing and develop basic skills in packaging, packing, documentation and materials handling. Students also explore bonding principles and practices and career opportunities within the warehousing and distribution sector.

Module Parameters: Access to one or more logistics operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate an understanding of: <ul style="list-style-type: none"> – warehousing types, purposes, functions and operations of warehouses, locations, organization, processes and stock locator techniques • identify and explain bonding principles and practices • demonstrate basic skills in shipment preparation including: <ul style="list-style-type: none"> – packaging – packing – document selection and completion • demonstrate safety, competency and confidence in: <ul style="list-style-type: none"> – handling materials – operating equipment and aids 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • identifying and explaining: <ul style="list-style-type: none"> – types, purposes and functions of warehouses – relationship between receiving, shipping and storage areas – various warehousing systems – purposes, advantages and disadvantages of various stock locator techniques • preparing and presenting a report on bonding: <ul style="list-style-type: none"> – principles and practices – effects on flow of goods from producer to consumer • demonstrating: <ul style="list-style-type: none"> – knowledge of packing standards – packaging procedures – document selection and completion • identifying, selecting and safely using appropriate equipment and aids in handling and managing materials and product. <p><i>Assessment Tool</i> <i>LOG2010: Warehouse & Distribute 2 Competency Profile and Assessment Checklist</i></p> <p><i>Standard</i> <i>A minimum performance rating of 2 for each applicable area of assessment</i></p>	<p>10</p> <p>10</p> <p>10</p> <p>10</p> <p>40</p>

MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Warehousing</p> <ul style="list-style-type: none"> • Types • Locations • Organization • Systems 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify various types of warehouses and describe their specific purposes • identify and explain where and why different types of warehouses are usually located • identify and explain the purpose of and relationship between: <ul style="list-style-type: none"> – shipping area – receiving area – storage area • identify and explain the purpose of different systems of warehousing including: <ul style="list-style-type: none"> – first in/first out (FIFO) – last in/first out (LIFO) – time-dated systems – non-time dated systems – bulk materials handling systems – general materials handling procedures 	

MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2 (continued)

Concept	Specific Learner Expectations	Notes
<ul style="list-style-type: none"> • Stock Locator Systems 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and explain the advantages, disadvantages and purposes for using the following stock locator systems: <ul style="list-style-type: none"> – random – fixed – manual – electronic • demonstrate basic ability to use stock locator systems. 	
Bonding	<ul style="list-style-type: none"> • explain principles and practices relating to bonding; e.g.: <ul style="list-style-type: none"> – purpose of bonding – methods of bonding – bonding requirements • list examples of goods that are usually placed in bond • explain how bonding affects the flow of goods from producers to consumers. 	
Shipment Preparation <ul style="list-style-type: none"> • Packaging 	<ul style="list-style-type: none"> • distinguish between packaging and packing systems • explain the purpose of packaging • identify and describe types of packaging; e.g.: <ul style="list-style-type: none"> – volatile corrosive inhibiting paper (VCI paper) – blister packaging – security packaging – styrofoam – popcorn 	

MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2 (continued)

Concept	Specific Learner Expectations	Notes
<ul style="list-style-type: none"> • Packing • Documentation 	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and describe packing standards; e.g.: <ul style="list-style-type: none"> – consumer standards – industrial standards – labelling • demonstrate ability to pack items to: <ul style="list-style-type: none"> – minimize damage – meet rigours of shipment – regulations and standards – modal requirements – security needs • assist in completing shipping documentation; e.g.: <ul style="list-style-type: none"> – manifests – packing slips – bills of lading – MSDS for WHMIS products. 	
<p>Materials Handling</p> <ul style="list-style-type: none"> • Equipment and Aids 	<ul style="list-style-type: none"> • identify and describe equipment and aids used to handle various materials; e.g.: <ul style="list-style-type: none"> – forklifts – power lifts – power jacks – rollers • demonstrate safe product movement and placement procedures • demonstrate safety, competency and confidence in operating and handling equipment and aids. 	<p>Provincial and company regulations must be identified and followed in all situations.</p>
<p>Career Opportunities</p>	<ul style="list-style-type: none"> • identify and describe requirements for entry into a warehousing and distribution career as a: <ul style="list-style-type: none"> – shipper – receiver – forklift operator – warehouse supervisor – replenishment team leader – foreman – storage area supervisor – any other warehousing and distribution position. 	<p>Include in discussions of requirements:</p> <ul style="list-style-type: none"> • physical fitness • academic • willingness to learn • teamwork • numeracy • communication requirements/abilities.

MODULE LOG2020: TRAFFIC & TRANSPORT 2

Level: Intermediate

Theme: Traffic and Transportation

Prerequisite: LOG1030 Traffic & Transport 1

Module Description: Students develop basic skills in tracking, route planning, scheduling, load planning and other competencies related to handling outgoing shipments, including documentation, customs (import and export), weather and climate conditions, and strategies for preventive maintenance in traffic and transportation.

Module Parameters: Access to logistics-related traffic and transportation operations; a driver's licence may be required.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate basic skills in: <ul style="list-style-type: none"> – tracking, route planning and scheduling – completing and maintaining documentation – load planning, measuring and calculating – handling equipment – preparing outgoing shipments • identify and describe the role of: <ul style="list-style-type: none"> – customs, import and export – safety standards – weather and climate conditions – preventive maintenance 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • demonstrating competencies in: <ul style="list-style-type: none"> – using tracking systems and two-way communication devices – identifying and applying various formats for planning and scheduling routes – reading and maintaining shipping and transportation manifests, log books – tracing and taking claim actions – identifying weight restrictions and applying them to product specific needs – calculating cubic capacity, displacement and density for transportation vehicles and loads – safely using equipment and aids – preparing shipments according to customer and industry requirements, and performing marshalling activities – completing and maintaining import and export customs documentation – following appropriate safety standards – assisting in contingency planning for annually occurring and emergency conditions – using preventive maintenance procedures, recognizing defects, and initiating corrective measures. <p><i>Assessment Tool</i> <i>LOG2020: Traffic & Transport 2 Competency Profile and Assessment Checklist</i></p> <p><i>Standard</i> <i>A minimum performance rating of 2 for each applicable area of assessment</i></p>	<p></p> <p>10</p> <p>10</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>10</p> <p>20</p> <p></p> <p>5</p> <p>10</p> <p>5</p> <p>10</p>

MODULE LOG2020: TRAFFIC & TRANSPORT 2 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Tracking, Route Planning and Scheduling</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • explain the purpose of tracking systems • demonstrate basic ability to use: <ul style="list-style-type: none"> – tracking systems – two-way communication devices • demonstrate ability to use a map to plan a route; e.g.: <ul style="list-style-type: none"> – traditional format – computerized format • assist in planning a route • assist in planning a schedule to meet customer needs and requirements. 	
<p>Documentation</p>	<ul style="list-style-type: none"> • explain the purpose of and the difference between a shipping manifest and a transportation manifest • describe the purpose of a log book • assist in maintaining a log book • initiate tracing action on delayed shipments • initiate claim action on damaged goods. 	

MODULE LOG2020: TRAFFIC & TRANSPORT 2 (continued)

Concept	Specific Learner Expectations	Notes
<p>Customs, Import and Export</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and explain the purpose of import and export customs documentation • assist, where appropriate, in the preparation of import and export customs documentation; e.g.: <ul style="list-style-type: none"> – initiating the clearance of incoming shipments – maintaining a register • assist in maintaining an efficient filing system for all customs documentation. 	
<p>Load Planning</p>	<ul style="list-style-type: none"> • list and explain the procedure for load planning • describe key factors in load planning; e.g.: <ul style="list-style-type: none"> – weight restrictions – product specific needs • assist in developing a load plan • assist in identifying potential carriers with respect to service, reliability and rates. 	
<p>Measurement and Calculation</p>	<ul style="list-style-type: none"> • measure and calculate available space in various transportation vehicles, vessels; e.g.: <ul style="list-style-type: none"> – cubic capacity – displacement – density • explain the relationship of the above measurements to load planning • apply measurement and calculation skills in load planning. 	
<p>Outgoing Shipments</p> <ul style="list-style-type: none"> • Packing • Packaging • Labelling • Documentation • Loading 	<ul style="list-style-type: none"> • demonstrate ability to: <ul style="list-style-type: none"> – package goods to meet customer requirements and industry standards – pack items to meet shipping standards – label goods and shipments appropriately – complete outgoing documentation – assist in loading outgoing shipments. 	

MODULE LOG2020: TRAFFIC & TRANSPORT 2 (continued)

Concept	Specific Learner Expectations	Notes
Weather and Climate Conditions	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • explain the potential impact of weather and climate conditions on: <ul style="list-style-type: none"> – modes of transportation – vehicles and vessels – road closures, bridge/ferry usage, seasonal road bans and weight restrictions • describe how a logistics operation deals with: <ul style="list-style-type: none"> – annually occurring conditions – emergency conditions; e.g., contingency planning. 	
Safety Standards	<ul style="list-style-type: none"> • demonstrate application of appropriate safety standards including the use of: <ul style="list-style-type: none"> – wheel checks – reflector kits – fire extinguishers – personal protective equipment. 	
Preventive Maintenance, Strategies and Procedures	<ul style="list-style-type: none"> • explain the purpose of preventive maintenance (PM) • identify, describe and demonstrate appropriate types of maintenance activities • describe defects and initiate corrective procedures. 	
Equipment Handling	<ul style="list-style-type: none"> • demonstrate basic ability to handle, operate and/or use various equipment and aids relating to traffic and transportation. 	Need for students to become certified as licensed before using or operating equipment or aids.
Dangerous Goods	<ul style="list-style-type: none"> • describe special procedures required to transport dangerous goods in each mode and for each vehicle or vessel • demonstrate special procedures and safe handling of dangerous goods. 	

MODULE LOG2020: TRAFFIC & TRANSPORT 2 (continued)

Concept	Specific Learner Expectations	Notes
Career Opportunities	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and describe requirements for entry into a traffic and transportation career as: <ul style="list-style-type: none"> – freight checker – swamper – brokerage clerk – traffic coordinator – dispatcher – distribution supervisor. 	<p>Include a wide variety of requirements; e.g.:</p> <ul style="list-style-type: none"> • academic • technical • teamwork • communication • numeracy.

MODULE LOG2030: PURCHASING 2

Level: Intermediate

Theme: Purchasing

Prerequisite: LOG1040 Purchasing 1

Module Description: Students develop an understanding of the principles of locus of control, economies of scale, risk management, surface and hidden costs, tendering and procurement. Students also perform purchasing activities and address related factors, including budgets and inflation, within an organization's decision-making structure.

Module Parameters: Access to purchasing, warehousing and distributing facility.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate functional knowledge of key principles of: <ul style="list-style-type: none"> – lines of authority – economy of scale – risk management – budgeting • distinguish between surface and hidden costs • demonstrate basic abilities relating to: <ul style="list-style-type: none"> – purchasing – decision making – tendering – procurement 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • preparation and presentation of a report on: <ul style="list-style-type: none"> – how the locus of control affects purchasing decisions – how the economy of scale principle can add value to the company – basic strategies used to manage and minimize risk – relationship between purchasing, budgeting, risk and inflation • explaining how total ownership costs and other costs affect purchasing decisions affecting best value • demonstrating ability to: <ul style="list-style-type: none"> – balance quality, time and cost – assist in preparing tenders – assist in writing specifications. <p><i>Assessment Tool</i> <i>LOG2030: Purchasing 2 Competency Profile and Assessment Checklist</i></p> <p><i>Standard</i> <i>A minimum performance rating of 2 for each applicable area of assessment</i></p>	<p>5</p> <p>5</p> <p>10</p> <p>10</p> <p>10</p> <p>10</p> <p>25</p> <p>25</p>

MODULE LOG2030: PURCHASING 2 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Lines of Authority</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> define the term locus of control explain how the locus of control affects purchasing decisions identify and describe the lines of authority for the purchasing section of the organization operate efficiently and effectively within the identified lines of authority when assisting with purchasing activities. 	
<p>Economy of Scale</p>	<ul style="list-style-type: none"> define the term economy of scale explain how the use of the economy of scale principle adds value to a company list examples of an economy of scale in one or more purchasing activities. 	

MODULE LOG2030: PURCHASING 2 (continued)

Concept	Specific Learner Expectations	Notes
Risk Management	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • define the term risk management, including: <ul style="list-style-type: none"> – expense items – capital equipment – production materials • identify and describe the risks associated with purchasing decisions; e.g.: <ul style="list-style-type: none"> – company liability – personal liability – Workers’ Compensation Board (WCB) coverage • identify and chart lines of authority, responsibility and accountability in the risk management process • identify and describe basic strategies used to manage and minimize risk when purchasing decisions are made. 	<p>Risks, risk management and lines of authority may vary among different companies.</p>
Surface and Hidden Costs	<ul style="list-style-type: none"> • define and provide examples of: <ul style="list-style-type: none"> – surface and hidden costs – initial and lifetime costs • explain how total ownership costs and other costs affect purchasing decisions; e.g.: <ul style="list-style-type: none"> – insurance – gas – mileage – maintenance. 	
Purchasing Decision Making	<ul style="list-style-type: none"> • explain the concept of “best buy”; e.g.: <ul style="list-style-type: none"> – size – quantity – quality – cost • explain the necessity to balance quality, cost and time in making purchasing decisions. 	
Tendering	<ul style="list-style-type: none"> • define the term tendering • identify and describe the tendering process. 	

MODULE LOG2030: PURCHASING 2 (continued)

Concept	Specific Learner Expectations	Notes
Procurement	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • define the term procurement • explain the purpose of specification writing in purchasing activities. 	
Budgets	<ul style="list-style-type: none"> • explain the purpose or function of savings, capital accounts and operational accounts • identify individuals responsible for: <ul style="list-style-type: none"> – savings – budget centre usage – capital accounts – operational accounts • demonstrate a basic understanding of cost accounting principles • explain the effect of inflation upon the budget • explain the effect of the budget upon inflation • identify and describe the process by which spending decisions are made. 	
Career Opportunities	<ul style="list-style-type: none"> • identify and describe requirements for entry into a purchasing career as a: <ul style="list-style-type: none"> – buyer – procurement analyst – expediting clerk – regional representative – senior buyer – any other purchasing position. 	<p>Include as many requirements as possible; e.g.:</p> <ul style="list-style-type: none"> • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE LOG2040: INVENTORY MANAGEMENT 1

Level: Intermediate

Theme: Inventory Management and Control

Prerequisite: LOG1010 Logistics

Module Description: Students identify the role of inventory management and control, and participate in and demonstrate basic abilities to manage and control inventory.

Module Parameters: Access to inventory management and control operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> describe the roles of inventory management and control in logistics describe and distinguish among methods to classify and categorize materials identify and describe the purpose of key principles of inventory management and control use basic technology, and spreadsheets and databases to input, read and interpret inventory management and control describe and demonstrate product movement and replenishment strategies 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> the student's clarity and accuracy in reporting on: <ul style="list-style-type: none"> the role of inventory management and control systems in logistics inventory classification and categorization systems key principles of inventory management and control appropriateness and accuracy in using technology: e.g., spreadsheets, databases and word processors appropriateness in selecting and using product movement and assessment strategies. <p><i>Assessment Tool</i> <i>LOG2040: Inventory Management 1 Competency Profile and Assessment Checklist</i></p> <p><i>Standard</i> <i>A minimum performance rating of 2 for each applicable area of assessment</i></p>	<p>10</p> <p>10</p> <p>10</p> <p>30</p> <p>40</p>

MODULE LOG2040: INVENTORY MANAGEMENT 1 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Inventory Management and Control</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> explain the role of inventory management and control in the logistics process explain the purpose of and need for inventory management and control in the following contexts: <ul style="list-style-type: none"> security control reordering list and describe systems available to manage and control inventory: <ul style="list-style-type: none"> manual electronic other demonstrate basic inventory management and control procedures; e.g., picking, reordering. 	

MODULE LOG2040: INVENTORY MANAGEMENT 1 (continued)

Concept	Specific Learner Expectations	Notes
Inventory Classification Systems	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and describe commonly used classification systems such as: <ul style="list-style-type: none"> – Standard Industrial Classification Code (SIO) – Harmonized System (HS) – North Atlantic Treaty Organization (NATO) – Military (MI) – Federal Stock Number (FIN) • describe the purpose of: <ul style="list-style-type: none"> – warehouse keeper’s record – cycle count sheets • demonstrate basic ability to use one or more classification systems. 	
Inventory Control Principles	<ul style="list-style-type: none"> • list and describe inventory control principles including: <ul style="list-style-type: none"> – ABC Analysis – Minimum-Maximum Systems – Economic Order Quantity (EOQ) – Materials Requirement Planning (MRP) – Consignment Inventory – Just-In-Time (JIT). 	
Quality Control	<ul style="list-style-type: none"> • explain the purpose of quality control systems • describe quality control systems and procedures used in inventory management and control operations. 	
Technology	<ul style="list-style-type: none"> • identify and describe technology used in managing and controlling inventory such as: <ul style="list-style-type: none"> – manual records – microfiche – databases • demonstrate basic ability to: <ul style="list-style-type: none"> – access inventory information – input inventory information – interpret information from various databases. 	

MODULE LOG2040: INVENTORY MANAGEMENT 1 (continued)

Concept	Specific Learner Expectations	Notes
Career Opportunities	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify and describe current and emerging career opportunities specific to inventory management and control • identify requirements for entry into an inventory management control career at: <ul style="list-style-type: none"> – entry level – skilled level – supervisory level – management level. 	<p>Include as many requirements as possible; e.g.:</p> <ul style="list-style-type: none"> • academic • teamwork • communication skills • numeracy skills • ability to use technology.