

COURSE LOG1010: LOGISTICS

Level: Introductory

Prerequisite: None

Description: Students identify logistics as a sector in Canada's economy, by describing related subsectors, users and providers of logistics services. Students also identify current and emerging career paths in logistics.

Parameters: Access to persons knowledgeable about logistics, logistics subsectors and logistics operations.

Outcomes: The student will:

- 1. create a health and safety plan with special emphasis on conditions and factors related to the specific pathway or series of courses**
 - 1.1 research and identify the following eight common elements of a health and safety management system:
 - 1.1.1 management, leadership and organizational commitment including policies, guidelines and responsibilities
 - 1.1.2 hazard identification and assessment
 - 1.1.3 hazard control
 - 1.1.4 worker competency and training including: technical competence, safe work practices and procedures, personal protective equipment
 - 1.1.5 work site inspection
 - 1.1.6 incident investigation
 - 1.1.7 emergency response
 - 1.1.8 management system administration including: evaluation, records and statistics, maintenance of system
 - 1.2 explain each of the elements reflecting on occupational health and safety implications
 - 1.3 define health and safety elements relevant to the world-of-work
 - 1.4 present a health and safety plan clarifying its relevance to the work world and society in general
- 2. research common processes and methods of hazard identification, assessment and control specific to the pathway or series of courses**
 - 2.1 research and identify common job site hazard identification processes
 - 2.2 research and identify common methods for assessment and control of hazards
 - 2.3 explain and demonstrate appropriate health and safety effective practices
 - 2.4 demonstrate a proactive personal commitment toward improvement of workplace health and safety including concern for others and following instructions, rules and guidelines
- 3. explain the role and significance of logistics in everyday living**
 - 3.1 describe why logistics is seen to be significant in everyday living

- 4. identify and describe subsectors of logistics:**
 - 4.1 define:
 - 4.1.1 logistics
 - 4.1.2 producers
 - 4.1.3 distributors
 - 4.1.4 consumers
- 5. describe logistics subsectors including:**
 - 5.1 warehousing and distribution
 - 5.2 traffic and transportation
 - 5.3 purchasing
 - 5.4 inventory management and control
 - 5.5 production materials movement
- 6. relationships among logistics subsectors**
 - 6.1 identify and distinguish between users and suppliers of logistic services
 - 6.2 list examples of local, provincial, national and international users and suppliers of logistics services
 - 6.3 explain the term third-party logistics and provide an example of third-party logistics users and suppliers
- 7. explain the role of logistics in the production of a simple item with respect to the item's availability and use by a satisfied customer**
 - 7.1 for a selected item, identify and describe how the logistics sector and subsectors affect the production, distribution and eventual availability and use to consumers
 - 7.2 define the terms customer service and customer satisfaction
 - 7.3 explain the importance of customer service and satisfaction in logistics
 - 7.4 list and describe examples of customer service provided within a logistics operation
 - 7.5 describe strategies and instruments used to assess levels of customer service and satisfaction
- 8. demonstrate basic competencies**
 - 8.1 demonstrate fundamental skills to:
 - 8.1.1 communicate
 - 8.1.2 manage information
 - 8.1.3 use numbers
 - 8.1.4 think and solve problems
 - 8.2 demonstrate personal management skills to:
 - 8.2.1 demonstrate positive attitudes and behaviours
 - 8.2.2 be responsible
 - 8.2.3 be adaptable
 - 8.2.4 learn continuously
 - 8.2.5 work safely
 - 8.3 demonstrate teamwork skills to:
 - 8.3.1 work with others
 - 8.3.2 participate in projects and tasks
- 9. make personal connections to the cluster content and processes to inform possible pathway choices**
 - 9.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
 - 9.2 create a connection between a personal inventory and occupational choices

COURSE LOG1020: WAREHOUSE & DISTRIBUTE 1

Level: Introductory

Prerequisite: LOG1010: Logistics

Description: Students explore warehousing and distribution systems as subsectors of logistics and participate in warehousing, materials handling systems, stock placement and documentation activities.

Parameters: Access to one or more logistics operations.

Outcomes: The student will:

1. identify and describe the roles of warehousing and distribution in logistics

1.1 identify and describe processes involved in:

1.1.1 warehousing operations

1.1.2 distribution operations

1.2 explain the roles of warehousing and distribution in the logistics sector

1.3 distinguish between the purpose of warehousing and the purpose of distribution

1.4 explain the significance between warehousing roles and distribution roles in the logistics process

2. identify, describe and demonstrate materials handling:

• systems/processes

2.1 identify and describe general and specific safety requirements in warehousing and distribution operations

2.2 identify and demonstrate safe work practices associated with:

2.2.1 flow of materials

2.2.2 movement of equipment

2.2.3 Workplace Hazardous Materials Information System (WHMIS) requirements

2.2.4 wearing of protective clothing/personal protective equipment

2.3 identify and interpret signs and symbols used in warehousing and distribution operations

2.4 identify potential hazards within a warehousing and distribution workplace

• stock placement

2.5 describe and explain the concept of materials handling

2.6 identify and describe product movement and placement procedures

2.7 demonstrate safe stock handling and moving procedures

3. read, interpret and complete appropriate documentation

3.1 identify and describe the purpose of documentation used in:

3.1.1 warehousing operations

3.1.2 distribution operations

3.2 distinguish among:

3.2.1 packing slips

3.2.2 bills of lading

3.2.3 advance shipment notices

3.2.4 distribution sheets

3.2.5 other available documents

3.3 explain why accuracy and attention to detail are important when completing, reading and interpreting documents

- 3.4 complete appropriate documentation in:
 - 3.4.1 warehousing situations
 - 3.4.2 distribution situations
- 3.5 identify and explain the role and impact of technology in the generation of documentation in warehousing and distribution operations
- 3.6 explain the concept of electronic data interchange
- 4. demonstrate basic competencies**
 - 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
 - 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
 - 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. make personal connections to the cluster content and processes to inform possible pathway choices**
 - 5.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
 - 5.2 create a connection between a personal inventory and occupational choices

COURSE LOG1030: TRAFFIC & TRANSPORT 1

Level: Introductory

Prerequisite: LOG1010: Logistics

Description: Students distinguish among modes, vehicles and vessels involved in transportation, identify the advantages and disadvantages of single mode and intermodal usages, and demonstrate basic skills related to map reading, technology, handling equipment and handling dangerous goods.

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

Outcomes: The student will:

1. identify modes of transportation and the vehicles and vessels used in each mode

- 1.1 identify and describe the role of traffic and transportation in logistics
- 1.2 distinguish between the concepts of traffic and transportation when used in logistics contexts
- 1.3 explain the advantages and disadvantages of different vehicles and vessels used in the following modes of transportation:
 - 1.3.1 air; e.g., commercial, charter
 - 1.3.2 rail
 - 1.3.3 surface; e.g., commercial, contract, hotshot
 - 1.3.4 sea
 - 1.3.5 pipeline
- 1.4 list and describe product-specific transportation equipment available
- 1.5 for a selection of products, list the:
 - 1.5.1 most appropriate mode of transportation
 - 1.5.2 product-specific requirements; e.g., refrigeration, speed, air ride trailers for delicate equipment
 - 1.5.3 other requirements; e.g., time, temperature, packing

2. differentiate and explain the advantages and disadvantages of single mode usages and intermodal usages

- 2.1 describe the advantages and disadvantages of using each of the following transportation systems:
 - 2.1.1 single mode
 - 2.1.2 intermodal

3. demonstrate:

• map reading skills

- 3.1 demonstrate ability to use a map to:
 - 3.1.1 identify specific locations
 - 3.1.2 trace routes
 - 3.1.3 measure distances
 - 3.1.4 identify key features

• use of technology

- 3.2 define and describe electronic data interchange (EDI)
- 3.3 list examples of information that may be transmitted using EDI and related technology
- 3.4 use available hardware and software

- **handling dangerous goods**
- 3.5 describe the range of goods identified as dangerous goods
- 3.6 describe the methods used to identify and label different dangerous goods
- 3.7 demonstrate safe handling of dangerous goods
- **handling equipment**
- 3.8 identify and describe basic safety procedures, practices and standards that must be followed in each mode and for each vehicle:
 - 3.8.1 on-highway standards
 - 3.8.2 off-highway standards
 - 3.8.3 air/sea freight standards
 - 3.8.4 customer safety standards
- 3.9 use personal protective equipment
- 4. demonstrate basic competencies**
- 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
- 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
- 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. make personal connections to the cluster content and processes to inform possible pathway choices**
- 5.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
- 5.2 create a connection between a personal inventory and occupational choices

COURSE LOG1040: PURCHASING 1

Level: Introductory

Prerequisite: LOG1010: Logistics

Description: Students identify the role of purchasing, distinguish between public and private purchasing activities, perform expediting activities, and provide service to internal and external customers.

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

Outcomes: The student will:

- 1. describe the role of purchasing and work performed by purchasers in logistics**
 - 1.1 identify and describe the processes involved in the purchasing subsector of logistics
 - 1.2 explain how and where purchasing fits in the logistics process
 - 1.3 compare and contrast the purchasing process for goods and the purchasing process for services
 - 1.4 identify and explain, in chart form, the line of authority for the purchase of:
 - 1.4.1 goods
 - 1.4.2 services
 - 1.5 explain how and why purchasing decisions can add value/profitability to the logistics process
- 2. distinguish between public and private purchasing activities**
 - 2.1 identify differences and similarities between public and private purchasing activities
 - 2.2 identify differences and similarities between centralized purchasing procedures and decentralized purchasing procedures
- 3. differentiate between internal and external customers**
 - 3.1 distinguish between internal and external customers from a purchasing perspective
- 4. demonstrate basic competencies in:**
 - **purchasing**
 - 4.1 explain why customer satisfaction is an important factor in purchasing decisions
 - 4.2 explain the concept of necessity and how it relates to the purchasing process
 - **expediting**
 - 4.3 demonstrate basic expediting procedures including:
 - 4.3.1 tracking progress and time of arrival of specific orders
 - 4.3.2 consulting with suppliers
 - 4.3.3 anticipating problems
 - 4.3.4 having a contingency plan
 - 4.3.5 ensuring delivery of goods
 - **data handling**
 - 4.4 for a given item, explain the production process(es)
- 5. demonstrate basic competencies**
 - 5.1 demonstrate fundamental skills to:
 - 5.1.1 communicate
 - 5.1.2 manage information
 - 5.1.3 use numbers
 - 5.1.4 think and solve problems

- 5.2 demonstrate personal management skills to:
 - 5.2.1 demonstrate positive attitudes and behaviours
 - 5.2.2 be responsible
 - 5.2.3 be adaptable
 - 5.2.4 learn continuously
 - 5.2.5 work safely
- 5.3 demonstrate teamwork skills to:
 - 5.3.1 work with others
 - 5.3.2 participate in projects and tasks
- 6. make personal connections to the cluster content and processes to inform possible pathway choices**
 - 6.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
 - 6.2 create a connection between a personal inventory and occupational choices

COURSE LOG1910: LOG PROJECT A

Level: Introductory

Prerequisite: None

Description: Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Parameters: Introductory project courses must connect with a minimum of two CTS courses, one of which must be at the introductory level and be in the same occupational area as the project course. The other CTS course(s) can be either at the same level or at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

All projects and/or performances, whether teacher- or student-led, must include a course outline or student proposal.

Outcomes:

The teacher/student will:

- 1. identify the connection between this project course and two or more CTS courses**
 - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
 - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
- 2. propose the project and/or performance**
 - 2.1 identify the project and/or performance by:
 - 2.1.1 preparing a plan
 - 2.1.2 clarifying the purposes
 - 2.1.3 defining the deliverables
 - 2.1.4 specifying time lines
 - 2.1.5 explaining terminology, tools and processes
 - 2.1.6 defining resources; e.g., materials, costs, staffing
 - 2.2 identify and comply with all related health and safety standards
 - 2.3 define assessment standards (indicators for success)
 - 2.4 present the proposal and obtain necessary approvals

The student will:

- 3. meet goals as defined within the plan**
 - 3.1 complete the project and/or performance as outlined
 - 3.2 monitor the project and/or performance and make necessary adjustments
 - 3.3 present the project and/or performance, indicating the:
 - 3.3.1 outcomes attained
 - 3.3.2 relationship of outcomes to goals originally set

- 3.4 evaluate the project and/or performance, indicating the:
 - 3.4.1 processes and strategies used
 - 3.4.2 recommendations on how the project and/or performance could have been improved
- 4. demonstrate basic competencies**
 - 4.1 demonstrate fundamental skills to:
 - 4.1.1 communicate
 - 4.1.2 manage information
 - 4.1.3 use numbers
 - 4.1.4 think and solve problems
 - 4.2 demonstrate personal management skills to:
 - 4.2.1 demonstrate positive attitudes and behaviours
 - 4.2.2 be responsible
 - 4.2.3 be adaptable
 - 4.2.4 learn continuously
 - 4.2.5 work safely
 - 4.3 demonstrate teamwork skills to:
 - 4.3.1 work with others
 - 4.3.2 participate in projects and tasks
- 5. make personal connections to the cluster content and processes to inform possible pathway choices**
 - 5.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
 - 5.2 create a connection between a personal inventory and occupational choices