
CAREER AND TECHNOLOGY STUDIES

A. PROGRAM RATIONALE AND PHILOSOPHY

Through Career and Technology Studies (CTS), secondary education in Alberta is responding to the many challenges of modern society, helping young people develop daily living skills and nurturing a flexible, well-qualified work force.

In Canada's information society, characterized by rapid change in the social and economic environment, students must be confident in their ability to respond to change and successfully meet the challenges they face in their own personal and work lives. In particular, they make decisions about what they will do when they finish high school. Many students will enter the work force, others will continue their education. All students face the challenges of growing independence and responsibility, and of entering post-secondary programs and/or the highly competitive workplace.

Secondary schools also face challenges. They must deliver, on a consistent basis, high quality, cost-effective programs that students, parents and the community find credible and relevant.

CTS helps schools and students meet these challenges. Schools can respond more efficiently and effectively to student and community needs and expectations by taking advantage of the opportunities in the CTS curriculum to design courses and access school, community and distance learning resources. Students can develop the confidence they need as they move into adult roles by assuming increased responsibility for their

learning; cultivating their individual talents, interests and abilities; and by defining and acting on their goals.

As an important component of education in Alberta secondary schools, CTS promotes student achievement by setting clear expectations and recognizing student success. Students in CTS develop competencies—the knowledge, skills and attitudes they are expected to demonstrate, that is, what they know and what they are able to do.

Acquired competencies can be applied now and in the future as students make a smooth transition into adult roles in the family, community, workplace and/or further education. To facilitate this transition, clearly stated expectations and standards have been defined in cooperation with teachers, business and industry representatives and post-secondary educators.

CTS offers all students important learning opportunities. Regardless of the particular area of study chosen, *students in CTS will:*

- develop skills that can be applied in their daily lives, now and in the future
- refine career-planning skills
- develop technology-related skills
- enhance employability skills
- apply and reinforce learnings developed in other subject areas.

In CTS, students build skills they can apply in their everyday lives. For example, in the CTS program, particularly at the introductory levels, students have the opportunity to improve their ability to make sound consumer decisions and to appreciate environmental and safety precautions.



A career encompasses more than activities just related to a person's job or occupation; it involves one's personal life in both local and global contexts; e.g., as a family member, a friend, a community volunteer, a citizen of the world.

The integration of careers throughout the CTS program helps students to make effective career decisions and to target their efforts. CTS students will have the opportunity to expand their knowledge about careers, occupations and job opportunities, as well as the education and/or training requirements involved. Also, students come to recognize the need for lifelong learning.

Students in CTS have the opportunity to use and apply technology and systems effectively and efficiently. This involves:

- a decision regarding which processes and procedures best suit the task at hand
- the appropriate selection and skilled use of the tools and/or resources available
- an assessment of and management of the impact the use of the technology may have on themselves, on others and on the environment.



Integrated throughout CTS are employability skills, those basic competencies that help students develop their personal management and social skills. Personal management skills are improved as students take increased responsibility for their learning, design innovative solutions to problems and challenges, and manage resources effectively and efficiently. Social skills improve through learning experiences that require students to work effectively with others, demonstrate teamwork and leadership, and maintain high standards in safety and accountability.

As well as honing employability skills, CTS reinforces and enhances learnings developed in core and other optional courses. The curriculum emphasizes, as appropriate, the effective application of communication and numeracy skills.

In addition to the common outcomes described above, students focusing on a particular area of study will develop career-specific competencies that support entry into the workplace and/or related post-secondary programs. Career-specific competencies can involve understanding and applying appropriate terminology, processes and technologies related to a specific career, occupation or job.

PROGRAM OUTCOMES

The program outcomes describe the basic competencies integrated throughout the CTS program.

Within an applied context relevant to personal goals, aptitudes and abilities; *the student* in CTS *will*:

- demonstrate the basic knowledge, skills and attitudes necessary for achievement and fulfillment in personal life
- develop an action plan that relates personal interests, abilities and aptitudes to career opportunities and requirements
- use technology effectively to link and apply appropriate tools, management and processes to produce a desired outcome
- develop basic competencies (employability skills), by:
 - selecting relevant, goal-related activities, ranking them in order of importance, allocating necessary time, and preparing and following schedules (managing learning)
 - linking theory and practice, using resources, tools, technology and processes responsibly and efficiently (managing resources)
 - applying effective and innovative decision-making and problem-solving strategies in the design, production, marketing and consumption of goods and services (problem solving and innovation)
 - demonstrating appropriate written and verbal skills, such as composition, summarization and presentation (communicating effectively)
 - participating as a team member by working cooperatively with others and contributing to the group with ideas, suggestions and effort (working with others)

- maintaining high standards of ethics, diligence, attendance and punctuality, following safe procedures consistently, and recognizing and eliminating potential hazards (demonstrating responsibility).

PROGRAM ORGANIZATION

CURRICULUM STRUCTURE

Career and Technology Studies is organized into **strands** and **courses**.

Strands in CTS define competencies that help students:

- build daily living skills
- investigate career options
- use technology (managing, processes, tools) effectively and efficiently
- prepare for entry into the workplace and/or related post-secondary programs.

In general, strands relate to selected industry sectors offering positive occupational opportunities for students. Some occupational opportunities require further education after high school, and some allow direct entry into the workplace. Industry sectors encompass goods-producing industries, such as agriculture, manufacturing and construction; and service-producing industries, such as business, health, finance and insurance.

Courses are the building blocks for each strand. They define what a student is expected to know and be able to do (exit-level *competencies*). Courses also specify prerequisites. Recommendations for course parameters, such as instructional qualifications, facilities and equipment can be found in the guides to implementation.

The competencies a student must demonstrate to achieve success in a course are defined through *general outcomes*. Senior high school students who can demonstrate the general outcomes defined for a CTS course; i.e., who have the designated competencies, will qualify for 1 credit toward their high school diploma.

Specific outcomes provide a more detailed framework for instruction. Within the context of the general outcomes, the specific outcomes further define the knowledge, skills and attitudes the student should acquire.

The following chart shows the 22 strands that comprise the CTS program and the number of 1-credit courses available in each strand.

Strand	No. of Courses
1. Agriculture	33
2. Career Transitions	32
3. Communication Technology	35
4. Community Health	31
5. Construction Technologies	46
6. Cosmetology Studies	58
7. Design Studies	31
8. Electro-Technologies	37
9. Energy and Mines	26
10. Enterprise and Innovation	8
11. Fabrication Studies	44
12. Fashion Studies	29
13. Financial Management	16
14. Foods	37
15. Forestry	21
16. Information Processing	53
17. Legal Studies	13
18. Logistics	12
19. Management and Marketing	20
20. Mechanics	54
21. Tourism Studies	24
22. Wildlife	17

LEVELS OF ACHIEVEMENT

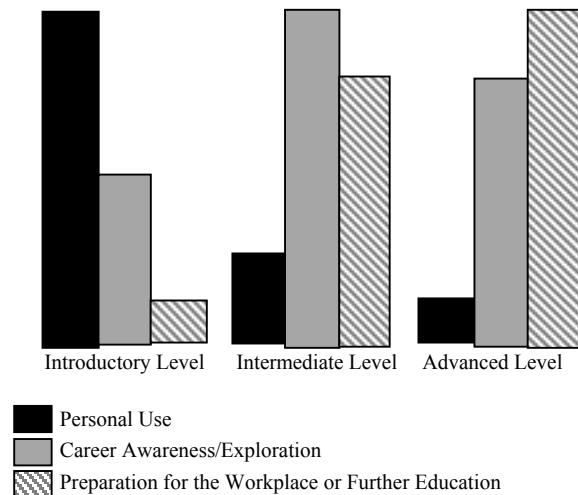
Courses are organized into three levels of achievement: **introductory**, **intermediate** and **advanced**. As students progress through the levels, they will be expected to meet higher standards and demonstrate an increased degree of competence, in both the program outcomes and the general outcomes defined for individual courses.

Introductory level courses help students build daily living skills and form the basis for further learning. Introductory courses are for students who have no previous experience in the strand.

Intermediate level courses build on the competencies developed at the introductory level. They provide a broader perspective, helping students recognize the wide range of related career opportunities available within the strand.

Advanced level courses refine expertise and help prepare students for entry into the workplace or a related post-secondary program.

The graph below illustrates the relative emphasis on the aspects of career planning at each of the levels.



CURRICULUM AND ASSESSMENT STANDARDS

Curriculum standards in CTS define what students must know and be able to do. Curriculum standards are expressed through the program outcomes for CTS, and through general and specific outcomes defined for individual courses within each strand.

Assessment standards define how student performance is to be judged. In CTS, each assessment standard defines the conditions and criteria to be used for assessing the competencies associated with each general outcome. To receive credit for a course, students must demonstrate competency at the level specified by the conditions and criteria defined for each general outcome.

Students throughout the province receive a fair and reliable assessment as they use the standards to guide their efforts, thus ensuring they participate more effectively and successfully in the learning and assessment process. Standards at advanced levels are, as much as possible, linked to workplace and post-secondary entry-level requirements.

TYPES OF COMPETENCIES

Two types of competencies are defined within the CTS program: basic and career-specific.

Basic competencies are generic to any career area and are developed within each course. Basic competencies include:

- personal management; e.g., managing learning, being innovative, ethics, managing resources
- social; e.g., communication, teamwork, leadership and service, demonstrating responsibility (safety and accountability).

Career-specific competencies relate to a particular strand. These competencies build daily living skills at the introductory levels and support the smooth transition to the workplace and/or post-secondary programs at the intermediate and advanced levels.

The model below shows the relationship of the two types of competencies within the 22 strands of the CTS program.












BASIC COMPETENCIES REFERENCE GUIDE

The chart below outlines basic competencies that students endeavour to develop and enhance in each of the CTS strands and courses. Students' basic competencies should be assessed through observations involving the student, teacher(s), peers and others as they complete the requirements for each course. In general, there is a progression of task complexity and student initiative as outlined in the Developmental Framework★. **As students progress through Stages 1, 2, 3 and 4 of this reference guide, they build on the competencies gained in earlier stages.** Students leaving high school should set themselves a goal of being able to demonstrate Stage 3 performance.

Suggested strategies for classroom use include:

- having students rate themselves and each other
- using in reflective conversation between teacher and student
- highlighting areas of strength
- tracking growth in various CTS strands
- highlighting areas upon which to focus
- maintaining a student portfolio.

Stage 1— <i>The student:</i>	Stage 2— <i>The student:</i>	Stage 3— <i>The student:</i>	Stage 4— <i>The student:</i>
<p>Managing Learning</p> <ul style="list-style-type: none"> <input type="checkbox"/> comes to class prepared for learning <input type="checkbox"/> follows basic instructions, as directed <input type="checkbox"/> acquires specialized knowledge, skills and attitudes <input type="checkbox"/> identifies criteria for evaluating choices and making decisions <input type="checkbox"/> uses a variety of learning strategies 	<p><input type="checkbox"/> </p> <ul style="list-style-type: none"> <input type="checkbox"/> follows instructions, with limited direction <input type="checkbox"/> sets goals and establishes steps to achieve them, with direction <input type="checkbox"/> applies specialized knowledge, skills and attitudes in practical situations <input type="checkbox"/> identifies and applies a range of effective strategies for solving problems and making decisions <input type="checkbox"/> explores and uses a variety of learning strategies, with limited direction 	<p><input type="checkbox"/> </p> <ul style="list-style-type: none"> <input type="checkbox"/> follows detailed instructions on an independent basis <input type="checkbox"/> sets clear goals and establishes steps to achieve them <input type="checkbox"/> transfers and applies specialized knowledge, skills and attitudes in a variety of situations <input type="checkbox"/> uses a range of critical thinking skills to evaluate situations, solve problems and make decisions <input type="checkbox"/> selects and uses effective learning strategies <input type="checkbox"/> cooperates with others in the effective use of learning strategies 	<p><input type="checkbox"/> </p> <p><input type="checkbox"/> </p> <ul style="list-style-type: none"> <input type="checkbox"/> demonstrates self-direction in learning, goal setting and goal achievement <input type="checkbox"/> transfers and applies learning in new situations; demonstrates commitment to lifelong learning <input type="checkbox"/> thinks critically and acts logically to evaluate situations, solve problems and make decisions <input type="checkbox"/> <input type="checkbox"/> provides leadership in the effective use of learning strategies
<p>Managing Resources</p> <ul style="list-style-type: none"> <input type="checkbox"/> adheres to established timelines; uses time/schedules/planners effectively <input type="checkbox"/> uses information (material and human resources), as directed <input type="checkbox"/> uses technology (facilities, equipment, supplies), as directed, to perform a task or provide a service <input type="checkbox"/> maintains, stores and/or disposes of equipment and materials, as directed 	<ul style="list-style-type: none"> <input type="checkbox"/> creates and adheres to timelines, with limited direction; uses time/schedules/planners effectively <input type="checkbox"/> accesses and uses a range of relevant information (material and human resources), with limited direction <input type="checkbox"/> uses technology (facilities, equipment, supplies), as appropriate, to perform a task or provide a service, with minimal assistance and supervision <input type="checkbox"/> maintains, stores and/or disposes of equipment and materials, with limited assistance 	<ul style="list-style-type: none"> <input type="checkbox"/> creates and adheres to detailed timelines on an independent basis; prioritizes task; uses time/schedules/planners effectively <input type="checkbox"/> accesses a range of information (material and human resources), and recognizes when additional resources are required <input type="checkbox"/> selects and uses appropriate technology (facilities, equipment, supplies) to perform a task or provide a service on an independent basis <input type="checkbox"/> maintains, stores and/or disposes of equipment and materials on an independent basis 	<ul style="list-style-type: none"> <input type="checkbox"/> creates and adheres to detailed timelines; uses time/schedules/planners effectively; prioritizes tasks on a consistent basis <input type="checkbox"/> uses a wide range of information (material and human resources) in order to support and enhance the basic requirement <input type="checkbox"/> recognizes the monetary and intrinsic value of managing technology (facilities, equipment, supplies) <input type="checkbox"/> demonstrates effective techniques for managing facilities, equipment and supplies
<p>Problem Solving and Innovation</p> <ul style="list-style-type: none"> <input type="checkbox"/> participates in problem solving as a process <input type="checkbox"/> learns a range of problem-solving skills and approaches <input type="checkbox"/> practices problem-solving skills by responding appropriately to a clearly defined problem, specified goals and constraints, by: <ul style="list-style-type: none"> – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action 	<ul style="list-style-type: none"> <input type="checkbox"/> identifies the problem and selects an appropriate problem-solving approach, responding appropriately to specified goals and constraints <input type="checkbox"/> applies problem-solving skills to a directed or a self-directed activity, by: <ul style="list-style-type: none"> – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action 	<ul style="list-style-type: none"> <input type="checkbox"/> thinks critically and acts logically in the context of problem solving <input type="checkbox"/> transfers problem-solving skills to real-life situations, by generating new possibilities <input type="checkbox"/> prepares implementation plans <input type="checkbox"/> recognizes risks 	<ul style="list-style-type: none"> <input type="checkbox"/> identifies and resolves problems efficiently and effectively <input type="checkbox"/> identifies and suggests new ideas to get the job done creatively, by: <ul style="list-style-type: none"> – combining ideas or information in new ways – making connections among seemingly unrelated ideas – seeking out opportunities in an active manner

Stage 1— <i>The student:</i>	Stage 2— <i>The student:</i>	Stage 3— <i>The student:</i>	Stage 4— <i>The student:</i>
<p>Communicating Effectively</p> <ul style="list-style-type: none"> <input type="checkbox"/> uses communication skills; e.g., reading, writing, illustrating, speaking <input type="checkbox"/> uses language in appropriate context <input type="checkbox"/> listens to understand and learn <input type="checkbox"/> demonstrates positive interpersonal skills in selected contexts 	<ul style="list-style-type: none"> <input type="checkbox"/> communicates thoughts, feelings and ideas to justify or challenge a position, using written, oral and/or visual means <input type="checkbox"/> uses technical language appropriately <input type="checkbox"/> listens and responds to understand and learn <input type="checkbox"/> demonstrates positive interpersonal skills in many contexts 	<ul style="list-style-type: none"> <input type="checkbox"/> prepares and effectively presents accurate, concise, written, visual and/or oral reports providing reasoned arguments <input type="checkbox"/> encourages, persuades, convinces or otherwise motivates individuals <input type="checkbox"/> listens and responds to understand, learn and teach <input type="checkbox"/> demonstrates positive interpersonal skills in most contexts 	<ul style="list-style-type: none"> <input type="checkbox"/> negotiates effectively, by working toward an agreement that may involve exchanging specific resources or resolving divergent interests <input type="checkbox"/> negotiates and works toward a consensus <input type="checkbox"/> listens and responds to understand, learn, teach and evaluate <input type="checkbox"/> promotes positive interpersonal skills among others
<p>Working with Others</p> <ul style="list-style-type: none"> <input type="checkbox"/> fulfills responsibility in a group project <input type="checkbox"/> works collaboratively in structured situations with peer members <input type="checkbox"/> acknowledges the opinions and contributions of others in the group 	<ul style="list-style-type: none"> <input type="checkbox"/>  <input type="checkbox"/> cooperates to achieve group results <input type="checkbox"/> maintains a balance between speaking, listening and responding in group discussions <input type="checkbox"/> respects the feelings and views of others 	<ul style="list-style-type: none"> <input type="checkbox"/> seeks a team approach, as appropriate, based on group needs and benefits; e.g., idea potential, variety of strengths, sharing of workload <input type="checkbox"/> works in a team or group: <ul style="list-style-type: none"> – encourages and supports team members – helps others in a positive manner – provides leadership/followership as required – negotiates and works toward consensus as required 	<ul style="list-style-type: none"> <input type="checkbox"/> leads, where appropriate, mobilizing the group for high performance <input type="checkbox"/> understands and works within the context of the group <input type="checkbox"/> prepares, validates and implements plans that reveal new possibilities
<p>Demonstrating Responsibility</p> <p>Attendance</p> <ul style="list-style-type: none"> <input type="checkbox"/> demonstrates responsibility in attendance, punctuality and task completion <p>Safety</p> <ul style="list-style-type: none"> <input type="checkbox"/> follows personal and environmental health and safety procedures <input type="checkbox"/> identifies immediate hazards and their impact on self, others and the environment <input type="checkbox"/> follows appropriate/emergency response procedures <p>Ethics</p> <ul style="list-style-type: none"> <input type="checkbox"/> makes personal judgements about whether or not certain behaviours/actions are right or wrong 	<ul style="list-style-type: none"> <input type="checkbox"/>  <input type="checkbox"/> recognizes and follows personal and environmental health and safety procedures <input type="checkbox"/> identifies immediate and potential hazards and their impact on self, others and the environment <input type="checkbox"/>  <input type="checkbox"/> assesses how personal judgements affect other peer members and/or family; e.g., home and school 	<ul style="list-style-type: none"> <input type="checkbox"/>  <input type="checkbox"/> establishes and follows personal and environmental health and safety procedures <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/> assesses the implications of personal/group actions within the broader community; e.g., workplace 	<ul style="list-style-type: none"> <input type="checkbox"/>  <input type="checkbox"/> transfers and applies personal and environmental health and safety procedures to a variety of environments and situations <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/> demonstrates accountability for actions taken to address immediate and potential hazards <input type="checkbox"/> analyzes the implications of personal/group actions within the global context <input type="checkbox"/> states and defends a personal code of ethics as required
<p>★Developmental Framework</p> <ul style="list-style-type: none"> • <i>Simple task</i> • <i>Structured environment</i> • <i>Directed learning</i> 	<ul style="list-style-type: none"> • <i>Task with limited variables</i> • <i>Less structured environment</i> • <i>Limited direction</i> 	<ul style="list-style-type: none"> • <i>Task with multiple variables</i> • <i>Flexible environment</i> • <i>Self-directed learning, seeking assistance as required</i> 	<ul style="list-style-type: none"> • <i>Complex task</i> • <i>Open environment</i> • <i>Self-directed/self-motivated</i>

LOGISTICS

B. STRAND RATIONALE AND PHILOSOPHY

Logistics involves the movement of goods from producer to consumer. It is the integrating process that includes designing, controlling, implementing, managing and operating the transportation of goods, including information.

Logistics systems occupy unique places in our economy. Although used by all, the systems are often ignored or taken for granted by users. However, logistics provide solutions for the often used but highly oversimplified statement: *“Nobody is where they want to be; nothing is where it is needed.”*

Logistics systems interact in both government and private sectors. In the process of moving goods by land (on, above and below), air and water and in space, it affects all facets of daily living—the environment, where people live, how and where they work, and the availability and accessibility of goods and travel for personal, commercial and industrial use.

The logistics sector is both diverse and complex, and it is an essential force in the social, cultural and economic development of Canada. This sector links Canadians to other nations and peoples, and with sophisticated systems (information management, personnel management, operating and marketing), providing many challenging and rewarding career opportunities for suitably qualified people.

Logistics, a strand in Career and Technology Studies, provides opportunities for students to increase their knowledge and appreciation about the scope and roles of each subsector of logistics, the importance of these subsectors to daily living, business and commerce, and the affect of different modes of transportation on natural environments. Logistics also enables students to prepare for their roles as users of logistics systems and services and to explore and prepare for related careers.

Logistics encourages the use of the student-centred process approach, which combines the development of thinking processes and practical skills in realistic learning situations. Throughout the program students are encouraged to solve problems, make decisions and develop the abilities and flexibility to adapt quickly to new situations, including changes in careers.

The emerging workplace requires that new entrants be lifelong learners who are able to access information and use technology to help solve problems and make decisions. Within the philosophy of Career and Technology Studies, *students in Logistics will:*

- develop daily living and career competencies
- become responsible citizens

- appreciate and understand the role and impact of logistics in the home, school and workplace
- identify and access career opportunities in logistics and appreciate the preparation needed to enter and progress in related fields
- develop confidence and flexibility as they assume adult roles and responsibilities and move into the workplace and/or further education and training programs
- study, practise and achieve success in life-skills and career-related competencies
- identify, practise and maintain high standards of safety and ethical conduct in logistics-related activities.

In order to achieve these competencies, *the student will:*

- apply knowledge, skills and attitudes from other disciplines in contexts related to self, family, workplace
- develop basic and career-specific skills that have applications for personal use and specific applications in the world of work
- develop positive attitudes toward work through participation in realistic learning activities in varied learning environments
- develop a more positive self-concept for assuming increasingly complex roles and responsibilities
- develop a greater awareness of the role of logistics-related businesses and industries in society, and the potential for enterprise and innovation within the logistics industry.

SCOPE AND SEQUENCE

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Logistics[⌘] <i>LOG1010</i> </div>			Introduction to Logistics
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Warehouse & Distribute 1 <i>LOG1020</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Warehouse & Distribute 2 <i>LOG2010</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Warehouse & Distribute 3 <i>LOG3010</i> </div>	Warehousing and Distribution
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Traffic & Transport 1 <i>LOG1030</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Traffic & Transport 2 <i>LOG2020</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Traffic & Transport 3 <i>LOG3020</i> </div>	Traffic and Transportation
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Purchasing 1 <i>LOG1040</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Purchasing 2 <i>LOG2030</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Purchasing 3 <i>LOG3030</i> </div>	Purchasing
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Inventory Management 1 <i>LOG2040</i> </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Inventory Management 2 <i>LOG3040</i> </div>	Inventory Management and Control

—— Prerequisite

- - - - Recommended sequence

⌘ Prerequisite to all modules in this strand.

MODULE LEARNER EXPECTATIONS: INTRODUCTORY LEVEL

MODULE LOG1010: LOGISTICS

Level: Introductory

Theme: Introduction to Logistics

Prerequisite: None

Module 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.

Module Learner Expectations: *The student will:*

- explain the role and significance of logistics in everyday living
- identify and describe:
 - subsectors of logistics
 - relationships among logistics subsectors
- explain the role of logistics in the production of a simple item to its availability and use by a satisfied customer
- identify and describe current and emerging career paths and opportunities within the logistics sector
- demonstrate basic competencies.

MODULE LOG1020: WAREHOUSE & DISTRIBUTE 1

Level: Introductory

Theme: Warehousing and Distribution

Prerequisite: LOG1010 Logistics

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

Module Learner Expectations: *The student will:*

- identify and describe the roles of warehousing and distribution in logistics
- identify, describe and demonstrate materials handling:
 - systems/processes
 - stock placement
- read, interpret and complete appropriate documentation
- demonstrate basic competencies.

MODULE LOG1030: TRAFFIC & TRANSPORT 1

Level: Introductory

Theme: Traffic and Transportation

Prerequisite: LOG1010 Logistics

Module 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 relating to map reading, technology, handling equipment and handling dangerous goods.

Module Learner Expectations: *The student will:*

- identify modes of transportation and vehicles and vessels used in each mode
- differentiate and explain the advantages and disadvantages of:
 - single mode usages
 - intermodal usages
- demonstrate:
 - map-reading skills
 - using technology
 - handling dangerous goods
 - handling equipment
- demonstrate basic competencies.

MODULE LOG1040: PURCHASING 1

Level: Introductory

Theme: Purchasing

Prerequisite: LOG1010 Logistics

Module 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.

Module Learner Expectations: *The student will:*

- describe the role of purchasing and work performed by purchasers in logistics
- distinguish between public and private purchasing activities
- differentiate between internal and external customers
- demonstrate basic competencies in:
 - purchasing
 - expediting
 - data handling
- demonstrate basic competencies.

MODULE LEARNER EXPECTATIONS: INTERMEDIATE LEVEL

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 Learner Expectations: *The student will:*

- demonstrate an understanding of:
 - 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:
 - packaging
 - packing
 - document selection and completion
- demonstrate safety, competency and confidence in:
 - handling materials
 - operating equipment and aids
- demonstrate basic competencies.

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 Learner Expectations: *The student will:*

- demonstrate basic skills in:
 - 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:
 - customs, import and export
 - safety standards
 - weather and climate conditions
 - preventive maintenance
- demonstrate basic competencies.

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 Learner Expectations: *The student will:*

- demonstrate functional knowledge of key principles of:
 - lines of authority
 - economy of scale
 - risk management
 - budgeting
- distinguish between surface and hidden costs
- demonstrate basic abilities relating to:
 - purchasing
 - decision making
 - tendering
 - procurement
- demonstrate basic competencies.

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 Learner Expectations: *The student will:*

- 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
- demonstrate basic competencies.

MODULE LEARNER EXPECTATIONS: ADVANCED LEVEL

MODULE LOG3010: WAREHOUSE & DISTRIBUTE 3

Level: Advanced

Theme: Warehousing and Distribution

Prerequisite: LOG2010 Warehouse & Distribute 2

Module Description: Students develop an understanding and competencies relating to stock movement and placement procedures, product tracking and the use of automated warehouse systems. Students also develop competencies in labelling, containerizing and palletizing items.

Module Learner Expectations: *The student will:*

- demonstrate an understanding of:
 - stock movement and placement procedures and practices
 - product tracking
 - equipment operations standards
 - automated warehouse systems
- demonstrate competencies in:
 - labelling
 - containerization
 - palletizing
- demonstrate basic competencies.

MODULE LOG3020: TRAFFIC & TRANSPORT 3

Level: Advanced

Theme: Traffic and Transportation

Prerequisite: LOG2020 Traffic & Transport 2

Module Description: Students explore transport regulations and licencing, and develop competency in planning a route and developing contingency plans.

Module Learner Expectations: *The student will:*

- demonstrate competency in planning a route and developing contingency plans
- demonstrate a basic understanding of:
 - equipment handling certification requirements
 - vendor and carrier licencing and training for dangerous goods
 - rates and tariffs
 - liabilities
- demonstrate basic competencies.

MODULE LOG3030: PURCHASING 3

Level: Advanced

Theme: Purchasing

Prerequisite: LOG2030 Purchasing 2

Module Description: Students develop knowledge about contract and business law, supplier quality assurance and performance management. Students also develop negotiation skills and an appreciation for the importance of professional ethics.

Module Learner Expectations: *The student will:*

- identify and explain key principles of:
 - contract and business law
 - supplier quality assurance
 - performance management
- demonstrate basic understanding and skills in professional ethics
- demonstrate negotiation skills
- demonstrate basic competencies.

MODULE LOG3040: INVENTORY MANAGEMENT 2

Level: Advanced

Theme: Inventory Management and Control

Prerequisite: LOG2040 Inventory Management 1

Module Description: Students demonstrate competencies relating to product movement and replenishment strategies, budgeting, internal controls and asset recovery.

Module Learner Expectations: *The student will:*

- identify, describe and apply key principles of:
 - product movement and replenishment strategies
 - budget procedures
 - internal controls
 - asset recovery
- use basic technology to affect inventory management and control
- demonstrate basic competencies.