



# **Business – Supply Chain and Operations Program Standard**

*The approved program standard for Business  
– Supply Chain and Operations program of  
instruction leading to an Ontario College  
Diploma delivered by Ontario Colleges of  
Applied Arts and Technology (MTCU funding  
code 58900)*

Ministry of Training, Colleges and Universities  
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[psu@ontario.ca](mailto:psu@ontario.ca)

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# I. Introduction

*This document is the Program Standard for the Business – Supply Chain and Operations program of instruction leading to an Ontario College Diploma delivered by Ontario colleges of applied arts and technology (MTCU funding code 58900).*

## Development of System-Wide Program Standards

In 1993, the Government of Ontario initiated program standards development with the objectives of bringing a greater degree of consistency to college programming offered across the province, broadening the focus of college programs to ensure graduates have the skills to be flexible and to continue to learn and adapt, and providing public accountability for the quality and relevance of college programs.

The Program Standards and Evaluation Unit of the Ministry of Training, Colleges and Universities have responsibility for the development, review and approval of system-wide standards for programs of instruction at Ontario colleges of applied arts and technology.

## Program Standards

Program standards apply to all similar programs of instruction offered by colleges across the province. Each program standard for a postsecondary program includes the following elements:

- **Vocational standard** (the vocationally specific learning outcomes which apply to the program of instruction in question),
- **Essential employability skills** (the essential employability skills learning outcomes which apply to all programs of instruction); and
- **General education requirement** (the requirement for general education in postsecondary programs of instruction).

Collectively, these elements outline the essential skills and knowledge that a student must reliably demonstrate in order to graduate from the program.

Individual colleges of applied arts and technology offering the program of instruction determine the specific program structure, delivery methods and other curriculum matters to be used in assisting students to achieve the outcomes articulated in the standard. Individual colleges also determine whether additional local learning outcomes will be required to reflect specific local needs and/or interests.

## The Expression of Program Standards as Vocational Learning Outcomes

Vocational learning outcomes represent culminating demonstrations of learning and achievement. They are not simply a listing of discrete skills, nor broad statements of knowledge and comprehension. In addition, vocational learning outcomes are interrelated and cannot be viewed in isolation of one another. As such, they should be viewed as a comprehensive whole. They describe performances that demonstrate that significant integrated learning by graduates of the program has been achieved and verified.

Expressing standards as vocational learning outcomes ensures consistency in the outcomes for program graduates, while leaving to the discretion of individual colleges curriculum matters such as the specific program structure and delivery methods.

## The Presentation of the Vocational Learning Outcomes

The vocational learning outcome statements set out the culminating demonstration of learning and achievement that the student must reliably demonstrate before graduation.

The elements of the performance for each outcome define and clarify the level and quality of performance necessary to meet the requirements of the vocational learning outcome. However, it is the performance of the vocational learning outcome itself on which students are evaluated. The elements of performance are indicators of the means by which the student may proceed to satisfactory performance of the vocational learning outcome. The elements of performance do not stand alone but rather in reference to the vocational learning outcome of which they form a part.

## The Development of a Program Standard

In establishing the standards development initiative, the Government determined that all postsecondary programs of instruction should include vocational skills coupled with a broader set of essential skills. This combination is considered critical to ensuring that college graduates have the skills required to be successful both upon graduation from the college program and throughout their working and personal lives.

A program standard is developed through a broad consultation process involving a range of stakeholders with a direct interest in the program area, including employers, professional associations, universities, secondary schools and program graduates working in the field, in addition to students, faculty and administrators at the colleges themselves. It represents a consensus of

participating stakeholders on the essential learning that all program graduates should have achieved.

## Updating the Program Standard

The Ministry of Training, Colleges and Universities will undertake regular reviews of the vocational learning outcomes for this program to ensure that the Business – Supply Chain and Operations Program Standard remains appropriate and relevant to the needs of students and employers across the Province of Ontario. To confirm that this document is the most up-to-date release, please contact the Ministry of Training, Colleges and Universities at the address or email address noted on the inside cover page.

## II. Vocational Standard

*All graduates of Business – Supply Chain and Operations programs have achieved the thirteen (13) vocational learning outcomes (VLOs) listed in the following pages, in addition to achieving the essential employability skills (EES) learning outcomes and meeting the general education (GE) requirement.*

### Preamble

Every organization that acquires raw materials, adds value through its manufacturing process, distributes, transports, stores and/or sells materials, goods or services, or manages any one or more of these functions, is part of a supply chain that spans from point of origin to point of consumption. The size and scope of supply chains can range dramatically and serve local and/or international markets. Consequently, supply chains can encompass a multiplicity of roles, functions and processes, involve a diversity of public and private sector stakeholders, and impact and be impacted by a range of internal and external factors. Understanding the complexity and interconnectedness of roles, work processes, transactions and stakeholders within supply chains, and between a supply chain and other business functions, is essential for those choosing to work in the field.

Supply chain activities generally fall within the following functional areas:

- procurement and sale of goods, services and materials;
- production planning, scheduling and resource allocation;
- fulfillment of customer orders and returns,
- the logistics associated with the handling, transportation and movement of goods, services and materials;
- inventory management; and
- continuous improvement of supply chain functions and processes.

Program graduates contribute to and support these job functions by:

- examining the connections between strategic objectives, stakeholder expectations, and supply chain functions, processes and roles;
- applying accounting and financial principles;
- identifying risk mitigation tools and strategies and compliance issues;
- collaborating with a diversity of stakeholders;
- using available technologies;
- monitoring relevant trends, issues and emerging technologies;
- following policies and procedures for workplace health and safety; and
- performing tasks in accordance with business and industry best practices and standards for professional, ethical and accountable conduct and communications.



Employment opportunities for graduates of supply chain programs are as varied as the field is broad. Employers also encompass a wide range of organizations and industries, from manufacturing and distribution of consumer goods to the services and public sectors, and from large corporations to small businesses. Diploma programs are generally designed to prepare graduates for a broad range of entry-level technical and administrative positions, and for more specialized education at an advanced level.

There are opportunities for graduates to pursue further educational qualifications. Graduates should contact individual colleges and universities for further details.

Endnote: The Ontario Council on Articulation and Transfer (ONCAT) maintains the provincial postsecondary credit transfer portal, ONTransfer, at <http://www.ontransfer.ca>.

# Synopsis of the Vocational Learning Outcomes

## Business – Supply Chain and Operations (Ontario College Diploma)

*The graduate has reliably demonstrated the ability to*

- 1. examine the connections between strategic objectives, stakeholder expectations, and the functions, processes and roles within a supply chain, to support decision-making, problem-solving and completion of tasks.**
- 2. support supply chain business operations using accounting and financial analysis.**
- 3. identify compliance issues within a supply chain to inform business operations.**
- 4. identify risk mitigation tools and strategies to support business operations within a supply chain.**
- 5. contribute to the acquisition and sale of goods, services and materials in accordance with best practices and stakeholder expectations across a variety of industries.**
- 6. contribute to the planning and scheduling of material requirements and resource allocation, and the management of inventories, for efficient production and fulfillment of customer orders and returns.**
- 7. coordinate the efficient handling and movement of goods, services, materials and related information within a supply chain.**
- 8. contribute to the identification and management of continuous improvements to functions and processes within a supply chain.**
- 9. use available technologies to enhance work performance and support supply chain functions, processes, transactions and communications.**
- 10. monitor relevant trends, emerging technologies, and local and global economic, political and environmental issues to enhance work performance and support management decisions.**
- 11. perform tasks in accordance with policies and procedures for workplace health and safety and industry standards and best practices for professional, ethical and accountable conduct and communications.**

- 12. collaborate with a diversity of stakeholders to facilitate business operations within a supply chain.**
- 13. participate in facilitated learning opportunities for personal, career and professional development.**

*Note: The learning outcomes have been numbered as a point of reference; numbering does not imply prioritization, sequencing, nor weighting of significance.*

# The Vocational Learning Outcomes

1. *The graduate has reliably demonstrated the ability to*

**examine the connections between strategic objectives, stakeholder expectations, and the functions, processes and roles within a supply chain, to support decision-making, problem-solving and completion of tasks.**

## Elements of the Performance

- describe the multiplicity of supply chain roles, functions, processes and stakeholders
- describe the types, categories and sources of data, documentation and information required to facilitate business operations within a supply chain
- explain the importance and central role of market supply and demand to strategic objectives and business operations within a supply chain
- explain the interconnectedness (relationships and dependencies) of roles, processes, functions, transactions and stakeholders within a supply chain, and between supply chain management and other essential business functions (e.g., sales, marketing, financial management, research and development, human resources, etc.)
- link an organization's strategic vision to the goals in supply chain decision-making
- identify variations and requirements for the flow (timing, direction, volume, entry and exit points) of goods, services, materials, finance and associated information within supply chains
- identify industry drivers (e.g., increasing globalization, environmental protection, resource scarcity, competition, security demands, regulation, etc.) and internal drivers (e.g., competitive strategy, asset utilization, production cycles, inventory management, etc.) and their impact on strategic objectives, stakeholder expectations, and the functions, processes and roles within a supply chain
- explain the impact of supply chain decisions on an organization's viability and success
- describe the influence of environmental and social responsibility issues on supply chain functions, processes, roles and decisions
- describe how current and emerging technologies impact functions, processes and roles within a supply chain
- describe domestic and international supply chain systems, functions, processes, roles and stakeholders across a variety of industries and organizations

- explain the importance of collaboration and customer service in meeting strategic objectives and stakeholder expectations

2. *The graduate has reliably demonstrated the ability to*

**support supply chain business operations using accounting and financial analysis.**

### **Elements of the Performance**

- explain the concept of value added with regard to supply chain functions, processes and roles
- identify opportunities to add value within a supply chain (e.g., through lowering costs, saving time, increasing customer satisfaction, increasing profitability, etc.)
- use accounting and financial concepts to classify and analyze costs
- explain the significance of financial statements and their application to monitor financial performance and support decision-making
- describe the impact of cost and volume decisions on business profitability
- explain the financial implications of supply chain management strategies on business profitability (e.g., outsourcing, off-shoring, re-shoring, channel mix, etc.)
- explain the concept and application of total cost of ownership to guide decision-making
- explain the use of trade-offs to optimize the balance between costs and levels of service
- discuss the use of financial indicators (e.g., return on investment, profitability, etc.) to assess supply chain efficiency

3. *The graduate has reliably demonstrated the ability to*

**identify compliance issues within a supply chain to inform business operations.**

### **Elements of the Performance**

- identify sources of rules, regulations, standards, protocols, guidelines and legal obligations that may impact business operations within a supply chain (e.g., domestic and international law and regulations, trade agreements (NAFTA, MERCOSUR, EEC), HACCP, INCOTERMS, contracts, internal and external repositories of product data (ERP systems, EPCIS, GS1, ECCNet), organization policies, industry best practices, etc.)
- consult relevant sources to ascertain the requirements, conditions, documentation and/or information necessary to facilitate the efficient and ethical acquisition, distribution and movement of goods or materials (e.g., stakeholders, regulations, trade agreements, rules of origin, contract and insurance policy provisions, etc.)
- review and interpret technical and commercial documentation for compliance issues (e.g., Packing List, Bill of Lading, Bill of Exchange, Manufacturing Bill of Materials, Master Production Schedule, etc.)
- explain the negative consequences associated with the acquisition and movement of goods and materials in violation of regulations, standards and/or stakeholder requirements (i.e., additional costs, fines, environmental damage, seizure of goods, return of goods, loss of business reputation, strained stakeholder relations, etc.)
- prepare the information and/or documentation necessary to conform to any relevant quality control and assurance programs or product identification/certification standards to facilitate supply chain transactions (e.g., International Organization for Standardization (ISO) series systems, phytosanitary certificates, etc.)
- determine appropriate size, weight and units for consolidation/deconsolidation, handling, transportation and storage that are compatible with product, health and safety standards, relevant regulations and industry best practices
- describe the use of supply chain documentation and information for tracing goods, services and materials

4. *The graduate has reliably demonstrated the ability to*

**identify risk mitigation tools and strategies to support business operations within a supply chain.**

### **Elements of the Performance**

- identify relevant risk factors associated with an organization's supply chain activities (e.g., natural disasters, weather conditions, accidents - collision, pollution, political unrest, financial or economic instability, terrorist activities, etc.)
- describe the financial implications and impact of identified risks
- determine the impact of identified risks on quality, customer service and organizational objectives
- perform a cost-benefit analysis to compare trade-offs or alternatives in order to mitigate risk impact and guide supply chain decision-making (e.g., by transferring, avoiding, reducing or accepting identified risks)
- prioritize risks and identify tools and strategies to monitor and/or prevent them
- identify strategies and tools to mitigate risks (e.g., back-up and contingency plans, alternative suppliers and service providers, multi-sourcing, insurance, legal advice, etc.)
- follow appropriate policies, procedures and physical controls to manage identified risks and ensure regulatory compliance



5. *The graduate has reliably demonstrated the ability to*

**contribute to the acquisition and sale of goods, services and materials in accordance with best practices and stakeholder expectations across a variety of industries.**

### **Elements of the Performance**

- participate in demand planning and forecasting to support purchase and sale decisions
- collaborate on purchasing and sale decisions with other functional business areas to optimize responsiveness to stakeholder needs and expectations (e.g. cost, quality, efficiency, warehousing capacity, availability of supplies, financial performance metrics, etc.)
- interpret relevant commercial and technical documentation to identify stakeholder needs, requirements and product/service or materials specifications (e.g. contracts, blueprints, etc.)
- identify legal and other compliance obligations relevant to purchase or sale transactions (e.g., domestic and international law, import/export regulations, trade agreements, contractual terms and conditions, etc.)
- participate in the accurate preparation and timely delivery of commercial, trade and/or financial documentation associated with the procurement or sale processes
- explain the importance of establishing alliances with key suppliers/clients and service providers
- explain the concept and application of total cost of ownership
- apply principles of environmental sustainability and social responsibility to the procurement and sale of goods, services and materials
- participate in the sourcing, choice and evaluation of suppliers/clients
- examine the impact of purchasing and sale decisions on financial performance indicators

6. *The graduate has reliably demonstrated the ability to*

**contribute to the planning and scheduling of material requirements and resource allocation, and the management of inventories, for efficient production and fulfillment of customer orders and returns.**

### **Elements of the Performance**

- participate in demand planning and forecasting to inform material requirements and resource allocation
- use planning tools and apply best practices in requirements planning to calculate the timing and quantity of orders to meet inventory requirements for production and distribution
- review relevant data to support the planning and scheduling process and optimize use of facilities, equipment and human resources
- participate in the “make or buy” decision process
- participate in the development and implementation of production and/or distribution schedules
- track purchases, manufacturing activities and deliveries of goods or services to meet planning timelines and avoid supply shortages
- participate in scheduling of staff to optimize production or sales fulfillment
- collaborate with suppliers to facilitate the timing, availability and financing of goods, services and materials
- explain the impact of production efficiencies and inventory management strategies on order fulfillment and financial performance indicators
- participate in demand planning and forecasting to support optimal inventory levels
- use appropriate strategies, tools and information to determine inventory levels and accuracy (e.g. cycle counts, visual review, standard operating procedures, periodic, etc.)
- determine appropriate size, weight and units for consolidation/deconsolidation, handling, transportation and storage that are compatible with product, health and safety standards, relevant regulations and industry best practices
- explain appropriate strategies to manage inventory levels to support operational requirements, marketing efforts, seasonal demand and stakeholder needs and requirements (e.g., vendor-managed inventory (VMI), just-in time (JIT), economic order quantity (EOQ), Kanban, etc.)
- use relevant data sources to track goods, services, materials and associated documentation to ensure order fulfillment, traceability and customer satisfaction

7. *The graduate has reliably demonstrated the ability to*

**coordinate the efficient handling and movement of goods, services, materials and related information within a supply chain.**

### **Elements of the Performance**

- analyze the comparative costs and benefits of various modes of transportation (i.e., road, rail, air, water, pipeline, etc.)
- select the appropriate mode(s) of transportation and carrier(s) based on relevant factors (e.g., size of shipment, geographic location, nature of goods or materials, stakeholder service requirements, cost, etc.)
- identify opportunities to make effective use of specialized supply chain intermediaries (e.g., freight forwarders, transport specialists, customs brokers, third-party logistics providers, etc.)
- determine the information and documentation required to facilitate the flow of materials, goods and/or services within a supply chain
- coordinate the movement of documentation with the associated goods, materials and services
- factor in the risks of additional costs in logistics decisions (e.g. line-haul costs, expedited freight, etc.)
- determine appropriate size, weight and units for consolidation/deconsolidation, handling, transportation and storage that are compatible with product, health and safety standards, relevant regulations and industry best practices
- select appropriate consolidation/deconsolidation techniques, accounting for stakeholder expectations for cost, quality, quantity, time and location (e.g., pallet systems, containers, etc.)
- apply warehousing and materials handling tactics to minimize the cost, time and space needed to handle and store goods and materials along supply chains
- consider the impact of geographic constraints and hours of service regulations in the transportation of goods and materials
- compare and contrast the information and documentation required to transport a variety of products along supply chains (e.g., raw materials, hazardous materials, plants, perishable food items, consumer packaged goods, etc.)
- analyze the information and documentation required to facilitate the flow of services along supply chains
- provide information for tracking and identification through unique product identifiers (e.g., barcodes, SKUs, Universal Product Code (UPC), etc.)

8. *The graduate has reliably demonstrated the ability to*

**contribute to the identification and management of continuous improvements to functions and processes within a supply chain.**

### **Elements of the Performance**

- use mapping tools and skills to chart supply chain systems, functions, processes, roles and activities (e.g., the flow and movement of relevant products, services, materials, information and finance within supply chains, decision points, transactions, stakeholders, etc.)
- apply lean principles and processes to business operations to identify value streams and opportunities to eliminate waste and improve customer satisfaction
- discuss opportunities to integrate principles of environmental sustainability and social responsibility into supply chain functions and processes
- participate in root cause analyses of supply chain processes and components to uncover problems/wastage and recommend solutions that align with organizational objectives and stakeholder requirements
- identify and monitor targets, objectives, benchmarks and/or key performance indicators for continuous improvement, waste elimination and customer satisfaction (e.g. increased profits, lower costs, on-time delivery, inventory reduction, better terms, higher quality, availability, response times, complaints, reduced carbon footprint, etc.)
- apply project management concepts, tools and skills to support implementation of changes to supply chain functions and processes
- use appropriate tools and technologies to monitor the progress of continuous improvement projects and to improve supply chain functions and processes
- assist in managing the impact that changes in supply chain processes and components will have on stakeholders
- produce timely and regular project communication updates
- explain the reasons and benefits of continuous improvement projects to encourage buy-in of stakeholders
- solicit and share opinions and ideas from stakeholders throughout continuous improvement projects
- anticipate problems during implementation of changes to processes or components, and contribute to the preparation of contingency plans
- cooperate with cross-functional team members to support the implementation and acceptance of changes to supply chain functions and processes

9. *The graduate has reliably demonstrated the ability to*

**use available technologies to enhance work performance and support supply chain functions, processes, transactions and communications.**

### **Elements of the Performance**

- use applications and tools to manage time, track deadlines, progress and completion of work, and organize information, contact lists and schedules
- select appropriate information and communication technology to collaborate and engage with internal and external stakeholders (e.g., telecommunications, social media, email, text messages, Web-based conferencing applications, etc.)
- use information and communication technology to access, store, send and manage information
- identify and use Web-based resources and tools when appropriate to support supply chain functions, processes, transactions and communications
- determine the reliability, authority, legality, relevance and currency of information and information sources
- describe the purposes, features, benefits and appropriate use of software tools for business planning (e.g., Enterprise Resource Planning (ERP) software, spreadsheet and database applications, etc.)
- describe the sources and types of data that can be collected, tracked and/or analyzed by available technology tools to support business planning and supply chain functions, processes, transactions and communications
- describe how technology can facilitate the flow of information between business activities and systems
- describe the links between system data input and documentation output
- identify the types of analysis, reports and documents that can be generated by business planning software and applications
- use spreadsheet, database and/or ERP software and applications to collect, store, organize, process and analyze data and financial information, and generate reports and documentation
- demonstrate proficiency using spreadsheet software (e.g., analyzing data using pivot tables, charts, graphs, formulas, etc.)
- demonstrate proficiency using database software and applications
- demonstrate proficiency using presentation software and applications
- explain the use of industry-specific equipment and technologies to support a variety of supply chain roles, functions and processes (e.g., EDI global positioning systems (GPS), satellite tracking, bar coding and scanning, radiofrequency (RF), etc.)
- adapt acquired technology skills and knowledge to new or different settings, platforms, communication, information and industry-specific tools and technologies

10. *The graduate has reliably demonstrated the ability to*

**monitor relevant trends, emerging technologies, and local and global economic, political and environmental issues to enhance work performance and support management decisions.**

### **Elements of the Performance**

- discuss the relevance of business and economic indicators in assessing and anticipating trends and potential changes to supply chain functions and processes
- discuss the impacts of external factors on the supply chain (e.g., political issues - changes to legislation or regulations, government changes or instability, war, terrorism, political or trade alliances, etc., climate change, emerging technology, stakeholder expectations, market demand, etc.)
- identify internal factors that may impact business operations within a supply chain in the short, medium and long term (e.g. outsourcing, reshoring, alliances, changes in technologies and information systems, etc.)
- contribute to informed discussions and report on the impact of trends and issues on supply chain efficiency and business profitability
- select and use appropriate monitoring tools to stay informed of relevant regulations, trends and issues impacting supply chain processes and transactions
- determine the reliability, authority, legality, relevance and currency of information and information sources
- contribute ideas to influence supply chain effectiveness based on emerging trends, issues and technological advances

11. *The graduate has reliably demonstrated the ability to*

**perform tasks in accordance with policies and procedures for workplace health and safety and industry standards and best practices for professional, ethical and accountable conduct and communications.**

### **Elements of the Performance**

- adhere to an organization's security protocols and privacy policies for access to, entry and distribution of data and information
- identify and report health and safety hazards and security concerns in the workplace (e.g., Workplace Hazardous Materials Information System (WHMIS), etc.)
- follow procedures and protocols for the safe use and operation of equipment and technologies
- follow procedures for emergency situations and develop contingency plans
- follow codes of conduct of relevant industry and professional associations in the performance of tasks
- set an example of appropriate behaviour in the workplace to support others to avoid the consequences of unethical, unprofessional and illegal conduct
- use organizational behaviour theories to promote an ethical and professional workplace culture
- discuss appropriate responses to a variety of ethical issues and dilemmas that can arise in the workplace
- explain human resources workplace policies, procedures and standards, and identify relevant industry labour laws (e.g., hours of work, grievance procedures, etc.)
- respect authority relationships and follow reporting and communication policies and procedures within an organization
- explain the benefits of adjusting to the culture and norms of an organization
- examine the differences in protocols, practices, organizational structure, administration and/or regulation in a variety of workplace settings (e.g., large corporations, small businesses, public sector, diverse industries, etc.)
- model and support others to apply principles of environmental sustainability and social responsibility to work in ways that minimize negative impacts and optimize social, environmental and economic benefits
- reflect on, learn from and accept responsibility for mistakes and poor decisions
- review solutions and recommendations carefully before communicating them
- understand the direct relationship between supply chain roles and an organization's ongoing viability and success

12. *The graduate has reliably demonstrated the ability to*

**collaborate with a diversity of stakeholders to facilitate business operations within a supply chain.**

### **Elements of the Performance**

- respond in a positive and timely manner and adapt priorities to meet internal and external stakeholder requests and needs
- use active listening skills to determine internal and external stakeholder needs, wants and/or expectations
- communicate using format, language, etiquette, tone and/or body language appropriate for the purpose of the communication and intended audience
- adapt communication style to the needs of individuals and ensure their special needs are accommodated
- show resourcefulness, tact, diplomacy and offer alternative solutions when dealing with problems or complaints
- respect the diversity of cultures, generations, locations and functional roles when communicating and collaborating with internal and external stakeholders
- use appropriate business etiquette, language and demonstrate respect for customs and traditions when conducting business
- participate effectively in business meetings
- apply conflict resolution skills, show resourcefulness, tact, diplomacy and offer alternative solutions when dealing with problems or complaints
- work effectively with cross-functional teams



13. *The graduate has reliably demonstrated the ability to*

**participate in facilitated learning opportunities for personal, career and professional development.**

### **Elements of the Performance**

- track issues and trends to identify opportunities for ongoing personal and professional development and to support career development
- adapt to changing workplace and stakeholder needs or expectations
- share relevant and/or mutually beneficial knowledge, skills and experience with others
- participate in discussions on the trends, issues and emerging technologies impacting supply chain roles and career opportunities
- identify and apply strategies to develop and maintain contact with others in the field (e.g., networking, participation in professional associations, etc.)
- identify and access professional development resources and opportunities which promote professional and personal growth (e.g., skill development training and workshops, conferences, certification, etc.)
- identify knowledge and skills within the supply chain field that are transferable to other professions
- apply strategies for maintaining health and well-being, reducing stress and enhancing personal effectiveness

## III. Essential Employability Skills

*All graduates of the Business – Supply Chain and Operations program of instruction must have reliably demonstrated the essential employability skills learning outcomes listed on the following pages, in addition to achieving the vocational learning outcomes and meeting the general education requirement.*

### Context

Essential Employability Skills (EES) are skills that, regardless of a student's program or discipline, are critical for success in the workplace, in day-to-day living and for lifelong learning.

The teaching and attainment of these EES for students in, and graduates from, Ontario's colleges of applied arts and technology are anchored in a set of three fundamental assumptions:

- these skills are important for every adult to function successfully in society today;
- our colleges are well equipped and well positioned to prepare graduates with these skills;
- these skills are equally valuable for all graduates, regardless of the level of their credential, whether they pursue a career path, or they pursue further education.

### Skill Categories

To capture these skills, the following six categories define the essential areas where graduates must demonstrate skills and knowledge.

- Communication
- Numeracy
- Critical Thinking & Problem Solving
- Information Management
- Interpersonal
- Personal

## Application and Implementation

In each of the six skill categories, there are a number of defining skills, or sub skills, identified to further articulate the requisite skills identified in the main skill categories. The following chart illustrates the relationship between the skill categories, the defining skills within the categories and learning outcomes to be achieved by graduates from all postsecondary programs of instruction that lead to an Ontario College credential.

EES may be embedded in General Education or vocational courses, or developed through discrete courses. However these skills are developed, all graduates with Ontario College credentials must be able to reliably demonstrate the essential skills required in each of the six categories.

<b>SKILL CATEGORY</b>	<b>DEFINING SKILLS:</b> <b>Skill areas to be demonstrated by graduates:</b>	<b>LEARNING OUTCOMES: The levels of achievement required by graduates.</b> <b>The graduate has reliably demonstrated the ability to:</b>
COMMUNICATION	<ul style="list-style-type: none"> <li>• Reading</li> <li>• Writing</li> <li>• Speaking</li> <li>• Listening</li> <li>• Presenting</li> <li>• Visual literacy</li> </ul>	<ol style="list-style-type: none"> <li>1. communicate clearly, concisely and correctly in the written, spoken and visual form that fulfills the purpose and meets the needs of the audience.</li> <li>2. respond to written, spoken or visual messages in a manner that ensures effective communication.</li> </ol>
NUMERACY	<ul style="list-style-type: none"> <li>• Understanding and applying mathematical concepts and reasoning</li> <li>• Analyzing and using numerical data</li> <li>• Conceptualizing</li> </ul>	<ol style="list-style-type: none"> <li>1. execute mathematical operations accurately.</li> </ol>
CRITICAL THINKING & PROBLEM SOLVING	<ul style="list-style-type: none"> <li>• Analyzing</li> <li>• Synthesizing</li> <li>• Evaluating</li> <li>• Decision making</li> <li>• Creative and</li> </ul>	<ol style="list-style-type: none"> <li>1. apply a systematic approach to solve problems.</li> <li>2. use a variety of thinking skills to anticipate and solve problems.</li> </ol>

SKILL CATEGORY	DEFINING SKILLS: Skill areas to be demonstrated by graduates:	LEARNING OUTCOMES: The levels of achievement required by graduates.  The graduate has reliably demonstrated the ability to:
	<p><b>innovative thinking</b></p>	
INFORMATION MANAGEMENT	<ul style="list-style-type: none"> <li>• Gathering and managing information</li> <li>• Selecting and using appropriate tools and technology for a task or a project</li> <li>• Computer literacy</li> <li>• Internet skills</li> </ul>	<ol style="list-style-type: none"> <li>1. <i>locate, select, organize and document information using appropriate technology and information systems.</i></li> <li>2. <i>analyze, evaluate and apply relevant information from a variety of sources.</i></li> </ol>
INTERPERSONAL	<ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Relationship management</li> <li>• Conflict resolution</li> <li>• Leadership</li> <li>• Networking</li> </ul>	<ol style="list-style-type: none"> <li>1. <i>show respect for the diverse opinions, values, belief systems and contributions of others.</i></li> <li>2. <i>interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.</i></li> </ol>
PERSONAL	<ul style="list-style-type: none"> <li>• Managing self</li> <li>• Managing change and being flexible and adaptable</li> <li>• Engaging in reflective practices</li> <li>• Demonstrating personal responsibility</li> </ul>	<ol style="list-style-type: none"> <li>1. <i>manage the use of time and other resources to complete projects.</i></li> <li>2. <i>take responsibility for one's own actions, decisions and their consequences.</i></li> </ol>

## IV. General Education Requirement

*All graduates of the Business – Supply Chain and Operations program must have met the general education requirement described on the following pages, in addition to achieving the vocational and essential employability skills learning outcomes.*

### Requirement

The General Education Requirement for programs of instruction is stipulated in the Credentials Framework (Appendix A in the Minister's Binding Policy Directive *Framework for Programs of Instruction*).

In programs of instruction leading to either an Ontario College Diploma or an Ontario College Advanced Diploma, it is required that graduates have been engaged in learning that exposes them to at least one discipline outside their main field of study and increases their awareness of the society and culture in which they live and work. This will typically be accomplished by students taking 3 to 5 courses (or the equivalent) designed discretely and separately from vocational learning opportunities.

This general education learning would normally be delivered using a combination of required and elective processes.

### Purpose

The purpose of General Education in the Ontario college system is to contribute to the development of citizens who are conscious of the diversity, complexity and richness of the human experience; who are able to establish meaning through this consciousness; and who, as a result, are able to contribute thoughtfully, creatively and positively to the society in which they live and work.

General Education strengthens students' essential employability skills, such as critical analysis, problem solving and communication, in the context of an exploration of topics with broad-based personal and/or societal importance.

# Themes

The themes listed below will be used to provide direction to colleges in the development and identification of courses that are designed to fulfil the General Education Requirement for programs of instructions.

Each theme provides a statement of Rationale and offers suggestions related to more specific topic areas that could be explored within each area. These suggestions are neither prescriptive nor exhaustive. They are included to provide guidance regarding the nature and scope of content that would be judged as meeting the intent and overall goals of General Education.

## **1. Arts in Society:**

### *Rationale:*

The capacity of a person to recognize and evaluate artistic and creative achievements is useful in many aspects of his/her life. Since artistic expression is a fundamentally human activity, which both reflects and anticipates developments in the larger culture, its study will enhance the student's cultural and self-awareness.

### *Content:*

Courses in this area should provide students with an understanding of the importance of visual and creative arts in human affairs, of the artist's and writer's perceptions of the world and the means by which those perceptions are translated into the language of literature and artistic expression. They will also provide an appreciation of the aesthetic values used in examining works of art and possibly, a direct experience in expressing perceptions in an artistic medium.

## **2. Civic Life:**

### *Rationale:*

In order for individuals to live responsibly and to reach their potential as individuals and as citizens of society, they need to understand the patterns of human relationships that underlie the orderly interactions of a society's various structural units. Informed people will have knowledge of the meaning of civic life in relation to diverse communities at the local, national and global level and an awareness of international issues and the effects of these on Canada, as well as Canada's place in the international community.

*Content:*

Courses in this area should provide students with an understanding of the meaning of freedoms, rights and participation in community and public life, in addition to a working knowledge of the structure and function of various levels of government (municipal, provincial, national) in a Canadian and/or in an international context. They may also provide an historical understanding of major political issues affecting relations between the various levels of government in Canada and their constituents.

**3. Social and Cultural Understanding:**

*Rationale:*

Knowledge of the patterns and precedents of the past provide the means for a person to gain an awareness of his or her place in contemporary culture and society. In addition to this awareness, students will acquire a sense of the main currents of their culture and that of other cultures over an extended period of time in order to link personal history to the broader study of culture.

*Content:*

Courses in this area are those that deal broadly with major social and cultural themes. These courses may also stress the nature and validity of historical evidence and the variety of historical interpretation of events. Courses will provide the students with a view and understanding of the impact of cultural, social, ethnic or linguistic characteristics.

**4. Personal Understanding:**

*Rationale:*

Educated people are equipped for life-long understanding and development of themselves as integrated physiological and psychological entities. They are aware of the ideal need to be fully functioning persons: mentally, physically, emotionally, socially, spiritually and vocationally.

*Content:*

Courses in this area will focus on understanding the individual: his or her evolution; situation; relationship with others; place in the environment and universe; achievements and problems; and his or her meaning and purpose. They will also allow students the opportunity to study institutionalized human social behaviour in a systematic way. Courses fulfilling this requirement may be oriented to the study of the individual within a variety of contexts.

## 5. Science and Technology:

### *Rationale:*

Matter and energy are universal concepts in science, forming a basis for understanding the interactions that occur in living and non-living systems in our universe. Study in this area provides an understanding of the behaviour of matter that provides a foundation for further scientific study and the creation of broader understanding about natural phenomena

Similarly, the various applications and developments in the area of technology have an increasing impact on all aspects of human endeavour and have numerous social, economic and philosophical implications. For example, the operation of computers to process data at high speed has invoked an interaction between machines and the human mind that is unique in human history. This and other technological developments have a powerful impact on how we deal with many of the complex questions in our society.

### *Content:*

Courses in this area should stress scientific inquiry and deal with basic or fundamental questions of science rather than applied ones. They may be formulated from traditional basic courses in such areas of study as biology, chemistry, physics, astronomy, geology or agriculture. As well, courses related to understanding the role and functions of computers (e.g., data management and information processing) and assorted computer-related technologies should be offered in a non-applied manner to provide students with an opportunity to explore the impact of these concepts and practices on their lives.