



Canadian  
Supply Chain  
Sector Council

Conseil canadien  
sectoriel de la chaîne  
d'approvisionnement

## OCCUPATIONAL STANDARD

(For use in the development of supply chain related job descriptions, performance evaluations, career development plans, etc.)

<b>Position:</b>	<b>COMPUTER &amp; INFORMATION SYSTEMS MANAGER</b>
<b>Description of Position (As defined by the CSCSC Stakeholder Community)</b>	<i>Computer &amp; Information Systems Managers plan, organize, direct, manage and evaluate activities related to the analysis, design, development, implementation, operation, and administration of computer and telecommunications software, networks and information systems.</i>
<b>Position Development</b>	Advancement to executive management level positions is possible through progressively responsible leadership positions and management experience. The career path will be determined by the size, type, geographic scope, culture, and organizational structure of the firm offering employment.
<b>Required Qualifications:</b>	<b>(Education, Training, Related Work Experience)</b>
<b>Education</b>	Completion of post-secondary school in any of the following areas: supply chain, computer science, business administration, commerce or engineering.
<b>Training</b>	Professional designations may be required. Computer & Information Systems Managers may require some on-the-job training and managerial training, but typically organizations require that the individual will already have the mandatory skills, knowledge, work-related experience, and/or training.
<b>Related Work Experience</b>	Computer & Information Systems Managers may require several years of experience in systems analysis, data administration, software engineering, network design or computer programming, including project management and supervisory experience.
<b>Tasks:</b>	
<b>Computer and Information Systems Managers perform</b>	<ul style="list-style-type: none"> <li>Plan, organize, direct, manage and evaluate the activities related to the analysis, design, development, implementation, operation and</li> </ul>

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<p><b>some or all of the following tasks</b></p>	<p>administration of computer and telecommunications software, networks, security, and information systems</p> <ul style="list-style-type: none"> <li>• Work with other departments and senior management to manage information system priorities and workload, align information system resources and ensure successful delivery of services</li> <li>• Collaborate with staff, other departments, senior management, decision makers, and other professionals / associates (external to the organization) to share / provide information (as appropriate), problem solve, and to clarify management objectives</li> <li>• Consult with users, management, vendors, technicians, and other professionals to discuss and assess system requirements, specifications, costs and timelines</li> <li>• Develop and implement policies and procedures for electronic data processing and computer systems operations and development</li> <li>• Review and / or implement project plans to plan and coordinate project activity</li> <li>• Identify and articulate potential projects to deliver changes and improvements to computer and information systems, and commission select projects</li> <li>• Develop analytics, systems and data management capabilities, including metrics and reports (e.g., management and project reports)</li> <li>• Establish key performance indicators, monitor ongoing performance, and improve performance against set goals</li> <li>• Assemble and manage cross-functional teams including information systems personnel to design, develop, implement, operate and administer computer and telecommunications software, networks and information systems</li> <li>• Identify and manage computer and information system related risks and opportunities</li> <li>• Provide 24 hour on-call support as required for escalated IT issues</li> <li>• Develop and deliver presentations</li> <li>• Manage contractor and subcontractor activities, develop performance specifications, and evaluate proposals to assess project feasibility and requirements</li> <li>• Control the budget and expenditures of the department or project</li> <li>• Stay informed of advancements in computer and information systems technology and supply chain practices, and apply this knowledge within the organization to improve supply chain processes</li> </ul>
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	<ul style="list-style-type: none"> <li>• Direct the hiring, training, supervision, mentoring, coaching, and performance evaluations of direct reporting staff</li> </ul>
<b>Tools and Technology:</b>	
	<ul style="list-style-type: none"> <li>• Computer Software and Associated Hardware (e.g., enterprise resource planning software, Global Positioning Systems, collaborative technologies, database reporting, database user interface and query, development software (e.g., environment, object or component oriented, and web platform), electronic mail, word processing, spreadsheet, and presentation, desk top and server software</li> <li>• Personal Digital Assistants or Organizers</li> <li>• Communication Devices (e.g., Radio Frequency Identification Devices (RFID), Voice over Internet Protocol (VOIP), etc.)</li> </ul>
<b>Required Competencies:</b>	<b>(Knowledge, Skills, Personal Attributes)</b>
<b>Knowledge</b>	A Computer & Information Systems Manager should have in depth knowledge of supply chain processes and best practices, systems hardware, software, electronics, telecommunications, administration and management, customer service, production and processing, English language (and other languages as applicable), legal, project management, human resources, economics and accounting.
<b>Skills</b>	A Computer & Information Systems Manager should have the following skill sets: negotiation, persuasiveness, reading comprehension, active listening, critical thinking, complex problem solving, writing, coordination, speaking, judgment and decision making, social perceptiveness, service orientation, analytical, financial, communication, and time management.
<b>Personal Attributes</b>	<b>(Abilities, Work Values, Work Styles)</b>
<b>Abilities</b>	The following abilities are important to the role of Computer and information systems managers: adaptability, flexibility, inductive and deductive reasoning, information ordering / prioritization, oral expression and comprehension, problem sensitivity, written comprehension and expression, information ordering, and speech clarity and recognition.
<b>Work Values</b>	Individuals who will succeed in this position: <ul style="list-style-type: none"> <li>• lead by example and offer supportive management;</li> </ul>

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	<ul style="list-style-type: none"> <li>• seek and incorporate input from others;</li> <li>• empower employees to work independently; and</li> <li>• encourage employees to use their strongest abilities and promote achievement and accomplishment.</li> </ul>
<b>Work Styles</b>	The following work styles are attributable to a Computer & Information Systems Manager: leadership, integrity, analytical thinking, dependability, attention to detail, cooperation, persistence, self control, initiative, innovation, concern for others, and adaptability / flexibility.
<b>Essential Skills Profile:</b>	<p>Essential Skills are the skills needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. For more detailed essential skills profiles please refer to the HRSDC website: <a href="http://www.hrsdc.gc.ca/eng/workplaceskills/LES/index.shtml">http://www.hrsdc.gc.ca/eng/workplaceskills/LES/index.shtml</a></p> <p>The Human Resources and Skills Development Canada (HRSDC) Essential Skills Research Project focused on occupations requiring a secondary school diploma or less and on-the-job training. As such a formal Essential Skills Profile for the occupation of Computer &amp; Information Systems Manager has not yet been created by HRSDC.</p> <p>The following section contains essential skills information identified in existing occupational standards and classified using the nine Essential Skills categories. Note that the content is not associated with HRSDC and the Essential Skills Research Project.</p>
<b>Reading Text</b>	<ul style="list-style-type: none"> <li>• Read text in both print and non-print media; text contained in notes, letters, memos, e-mails, manuals, specifications, books, reports, charts, tables and graphs, etc.</li> <li>• Must be able to read and interpret dense and complex texts, trade magazines, newsletters and periodicals, accounting and financial statements, trade terms and international standards</li> </ul>
<b>Document Use</b>	<ul style="list-style-type: none"> <li>• Documents produced and/or used may include graphs, charts, lists, tables, schematics, drawings, schedules, labels, warning signs, information signs, etcetera, in both print and non-print media</li> <li>• Must be able to read simple to complex documents in which considerable inferences may be required</li> <li>• Must be able to read/interpret, and write/complete/produce documents</li> <li>• Must be able to create and / or obtain information from tables, schedules, flowcharts, schematics, etc.</li> <li>• Specialized knowledge of the content of the document may be</li> </ul>

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	required; multiple pieces of information from multiple sources are synthesized; the quality of information may be evaluated for accuracy and omissions
<b>Writing Skills</b>	<ul style="list-style-type: none"> <li>• Write on a variety of topics including company policy, responses to complaints, estimates, proposals, contractual agreements, staff evaluations, and client inquiries</li> <li>• Write reports to the staff, senior management, the board of directors – reports to the board may contain, for example, the monthly evaluation or a situation analysis and recommendations</li> </ul>
<b>Numeracy</b>	<ul style="list-style-type: none"> <li>• Apply financial math/money math</li> <li>• Apply scheduling, budgeting and accounting math</li> <li>• Apply measurement and calculation math</li> <li>• Apply data analysis math</li> <li>• Utilize numerical estimation</li> </ul>
<b>Oral Communication</b>	<ul style="list-style-type: none"> <li>• Provide clear and concise direction and instructions to staff and other departments</li> <li>• Professional communications with clients, staff, and colleagues using a variety of communications devices and media</li> <li>• Exchange information with other managers and senior management</li> <li>• Interview potential staff members during the recruitment process</li> <li>• Conduct staff meetings and make presentations</li> </ul>
<b>Thinking Skills</b>	<b>(Problem Solving, Decision Making, Job Task Planning and Organizing, Significant Use of Memory, Finding Information)</b>
<b>Problem Solving</b>	<ul style="list-style-type: none"> <li>• Ability to respond to and resolve client and staff complaints</li> <li>• Ability to think and respond quickly, and adjust schedules and operating plans in response to unplanned events</li> <li>• Ability and willingness to seek and incorporate input from others in order to develop collaborative solutions</li> <li>• Identify the factors causing contingencies with computer and information system operations using the appropriate problem-solving and investigation methods</li> </ul>
<b>Decision Making</b>	<ul style="list-style-type: none"> <li>• Make decisions in a changing work environment, with market, economic, social, and political environments taken in to account</li> <li>• Decisions are made in line with the corporate strategy</li> <li>• Select service providers and / or vendors of computer and information systems</li> <li>• Make decisions regarding staffing requirements</li> </ul>

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	<ul style="list-style-type: none"> <li>• Allocate specific work activities to employees, and other such as contractors or subcontractors</li> <li>• Establish the parameters for negotiating terms and conditions of contracts</li> <li>• Make decisions about suggestions for change (e.g. corporate strategy, policies and procedures, etcetera)</li> </ul>
<b>Job Task Planning and Organizing</b>	Computer & Information Systems Managers are collaborative when making decisions on organizational priorities. Computer and Information Systems Managers need to make adjustments for frequent interruptions and changing priorities.
<b>Significant Use of Memory</b>	Computer & Information Systems Managers must remember the policies of the organization, customer details, staff details, organizational priorities, computer and information systems, privacy and security laws and regulations, and applicable supply chain related laws and regulations.
<b>Finding Information</b>	<ul style="list-style-type: none"> <li>• Obtain information on computer and information system design and /or performance requirements</li> <li>• Find information for budgeting purposes</li> <li>• Identify opportunities for increased effectiveness and efficiency through client surveys, focus groups, sales figures, or feedback from customers</li> </ul>
<b>Working with Others</b>	Computer & Information Systems Managers lead teams and often work as part of broader teams (e.g., teams that are established to identify and agree on business and system requirements, global IT teams, etc.). Computer & Information Systems Managers provide encouragement and support to team members, and assist them in achieving their personal work objectives, the team work objectives, and provide recognition when objectives have been achieved. Computer & Information Systems Managers must have the capacity to build relationships both internally and externally to an organization and manage diverse multicultural workforces.
<b>Continuous Learning</b>	Enhanced learning may be acquired as part of regular work activity, through reading or other forms of self-study, or through off-site training. Ongoing learning occurs through participation in professional organizations, seminars, formal courses, conferences, and trade shows. In addition, skills are upgraded by attending conferences liaising with industry associations, and by taking classes through educational institutions.

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Additional Information	(Physical Aspects, Attitudes)
<b>Physical Aspects</b>	Computer & Information Systems Managers work extensively in an office environment (sitting for long periods, repetitive computer and telephone use). However, computer and information systems managers may also be required to travel to satisfy the position function. Typically there is no heavy lifting, bending, or stooping required; however, this is determined by the needs of the organization.
<b>Attitudes</b>	Computer & Information Systems Managers should have very advanced interpersonal skills – be persuasive, empathetic, able to handle pressure, creative, have a sense of urgency, and attention to detail. Computer & Information Systems Managers must exhibit leadership, people management skills, advanced negotiation skills, advanced conflict resolution skills, and organizational and planning abilities. Adaptability and flexibility are important, as Computer & Information Systems Managers work with diverse multicultural workforces.
<b>Future Trends Affecting Essential Skills:</b>	The ability to speak more than one language, and an awareness of and sensitivity to the diversity of international cultures is considered a growing need in the face of increasing globalization. Furthermore, familiarity with opportunities and benefits associated with “green IT” (e.g. server energy efficiency, reducing overall power consumption from IT related activities, etc.) will be of increasing importance as facilities begin to manage their overall environmental footprint while seeking short and long term cost saving opportunities.

<b>Government of Canada Defined - Related NOC Code &amp; Description</b>	<b>0213 Computer and Information Systems Managers</b> Computer and information systems managers plan, organize, direct, control and evaluate the activities of organizations that analyze, design, develop, implement, operate and administer computer and telecommunications software, networks and information systems. They are employed throughout the public and private sectors.
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**\*Activity Types:**

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