

Guidelines for Internationally Trained Information Technology Professionals

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IT professionals with BE or BS degree / MSc Degree may choose to apply for immigration to Canada under the Federal Skilled worker stream through the Express Entry System. Before you apply there are three most important pre-requisites.

1. Pre-requisites for Immigration to Canada:

- a) Select the correct **NOC code** which matches your academic qualification and the International work experience you will bring to Canada. e.g. NOC code for Computer engineers is 2147. Link (<http://noc.esdc.gc.ca/English>) [1a]
- b) Secure the required CLB English language score by taking the exam for International English Language Testing System (IELTS) General training module. Once you have the result you can create a profile in the Express Entry System. [1b]
- c) Assessment and evaluation of your foreign academic credentials. Depending on your BE/BS or MSc degrees, you need to firstly have it certified from HEC (Higher education Commission of Pakistan) and then that has to be sent to either of the below Institutions for an ECA report. [1c]
- d) Institutes accredited by CIC as below for credential assessment [1d]
 - Comparative Education Service: University of Toronto School of Continuing Studies
 - International Credential Assessment Service of Canada
 - World Education Services
 - International Qualifications Assessment Service
 - International Credential Evaluation Service

Visit link: <http://www.cic.gc.ca/english/helpcentre/answer.asp?qnum=681&top=29>

Details for one of institutes can be found at <https://learn.utoronto.ca/international-professionals/comparative-education-service-ces>

Contact them:

A. BY PHONE:

+1-416-978-0393

Monday, Tuesday, and Thursday:

10:00 a.m. to 3:00 p.m. (EST)

B. IN PERSON:

158 St. George Street

Toronto, ON, M5S 2V8, Canada

Closest TTC subway station: St. George

Wednesday and Friday:

11:00 a.m and 1:00 p.m. (EST)

C. ONLINE

at <https://learn.utoronto.ca/international-professionals/comparative-education-services/contact-us>

2. Pathway to IT career in Canadian system:

As an IT Professional once you land in Canada through immigration or on work permit visa, you do not need to go through any examination or acquire any specific license to pursue your career. Although what is recommended is to acquire certain IT certifications / Diplomas either online or from any Canadian Institute e.g. Sheridan College, Humber College Etc. which will definitely give you an edge in the competitive IT job market in Canada

New Comer Centers: New comer Centers Funded by Federal Government of Canada, guide and facilitate new comers in finding job placements and coop programs in the respective fields. Which helps drive your career and provides a push start on your new journey. The new comer Centers can definitely be a one stop solution for new IT professionals looking for

- Career counselling-helps you identify your skill and best suited pathway
- Coop / bridging programs with employers
- Assistance in form of study material, bursaries or at times financial aid for certificate courses up to \$500 -\$ 1000/-

3. Certifications in demand in year 2017:

- Microsoft Certified Systems Engineer (MCSE) and Certified Systems Developer (MCS D) certifications
- VCP6-DCV: VMware Certified Professional 6 – Data Center Virtualization
- CompTIA Cloud Essentials
- CISSP – Certified Information Systems Security Professional Certification
- Amazon Web Services (AWS) Certification
- Cisco Certified Internetwork Expert (CCIE) Routing and Switching
- Citrix Certified Professional - Virtualization (CCP-V)

4. Alternate / Specialized career in IT:

IT certification by numbers:

CompTIA recently conducted a survey of IT managers to better understand how they feel about IT certifications, and how they impact hiring decisions. Here's what they found out:

- 66% of IT managers use IT certifications to distinguish between equally qualified candidates
- 72% of IT managers require an IT certification for certain job roles
- 60% of IT managers use IT certifications to gauge a candidate's expertise
- 66% of IT managers believe IT certifications are valuable

a) Developer Certifications:

In development, the wide variety of programming languages and countless tools and resources mean that there are plenty of valuable development certifications for you to choose from. Any kind of C/C++ or Java certification will be an instant checkmark on your resume. Other popular certifications employers look for include Adobe's developer certification (ACE) and Microsoft's (MCSD). Below are a few popular developer certifications, though this list is by no means comprehensive.

- Certified Secure Software Lifecycle Professional
- Google Apps for Business Certified Deployment Specialist
- Cloudera Certified Developer for Apache Hadoop (CCDH)
- Oracle Certified Java Certifications (OCP, OCM, and OCE)
- Red Hat Certified JBoss Developer (RHCJD)
- Certified Scrum Developer (CSD)

b) Mobile Certifications:

With the meteoric rise in smartphone usage, mobile application developers who can demonstrate their skills with a well-regarded certification are in intense demand. The two most popular mobile operating systems are Android and iOS, which have a combined 95% market share. Mobile developers who can demonstrate their expertise in Java (Android) and Objective-C (iOS) will have an immediate leg up. Some popular mobile developer certifications that employers look for include:

- Android Certified Application Developer
- IBM Certified Mobile Application Developer
- MTA Developer

c) Big Data Certifications:

Big data specialists, also sometimes referred to as ‘data scientists’ will find that there are a variety of data scientist certifications from software companies such as Microsoft, Cloudera, EMC, and Oracle. Some popular big data certifications to consider include:

- Oracle Business Intelligence Certification
- Cloudera Certified Professional: Data Scientist
- Microsoft Certified Systems Engineer: Business Intelligence (MCSE)
- EMC Data Scientist

d) Cloud Certifications:

There’s a great deal of curiosity and mystery among non-tech-savvy individuals about what exactly ‘the cloud’ is. However, if you’re an IT professional who works in cloud computing, you probably know that Microsoft and Amazon are recognized leaders in this field, and their cloud certification programs will look great on your resume.

- Microsoft Certified Systems Engineer: Private Cloud (MCSE)
- CompTIA Cloud+
- Amazon Web Services Certified Solutions Architect (AWS-CSA)

e) Help desk Certifications:

As the two leading desktop operating systems, Microsoft’s Windows and Apple’s OS X are, where most help desk professionals are expected to be experts. Below are a few of the most popular certification programs, that’ll help you get ahead in this profession.

- CompTIA A+
- Microsoft Specialist
- Apple Certified Support Professional (ACSP)

f) Information Security Certifications:

In our digital world, security specialists are becoming increasingly important to protect the vast amounts of sensitive data we store online. Companies take keeping their data safe very seriously. A breach can be extremely costly and damage customer trust beyond repair. IT security certifications are one way for employers to vet potential employees and ensure they have the necessary skills to protect and secure data.

- Certified Information Systems Security Professional (CISSP)
- Certified Information Security Manager (CISM)
- Certified Ethical Hacker (CEH)
- GIAC Security Essentials (GSEC)
- CompTIA Security+

g) Networking Certifications:

With the internet and intranet connections running through every major business in North America, it's no surprise that networking is an in-demand skill. Cisco is by far, the leading company in this arena, making their networking certifications the most valuable to add to your resume.

- Cisco Certified Networking Professional (CCNP)
- Cisco Certified Networking Associate (CCNA)
- Cisco Certified Internetwork Expert (CCIE)
- CompTIA Network+

h) Database Certifications:

Oracle and SQL have long been recognized as leaders in database management. As such, these certifications are the ones to get to give your resume a boost and improve your employability. That said, database management is overflowing with valuable certifications. Below are just a few of the most popular. Make sure you do your research and choose a certification that makes sense for your desired career path.

- Oracle Certified Professional (OCP)
- ICCP Certified Data Management Pro (ICCP CDMP)
- Microsoft SQL Server Database Certifications
- IBM Info Management Certifications
- MongoDB NoSQL Certifications

i) System Administrator Certifications:

System administrators, or SysAdmin, are at the heart of any IT team. They manage massive enterprise data centres. A skilled system administrator must be able to master a wide variety of skills and technologies including directories, networking, database management, various software applications, email and more. Below are a handful of IT certifications most sought out to verify your skills in this demanding profession.

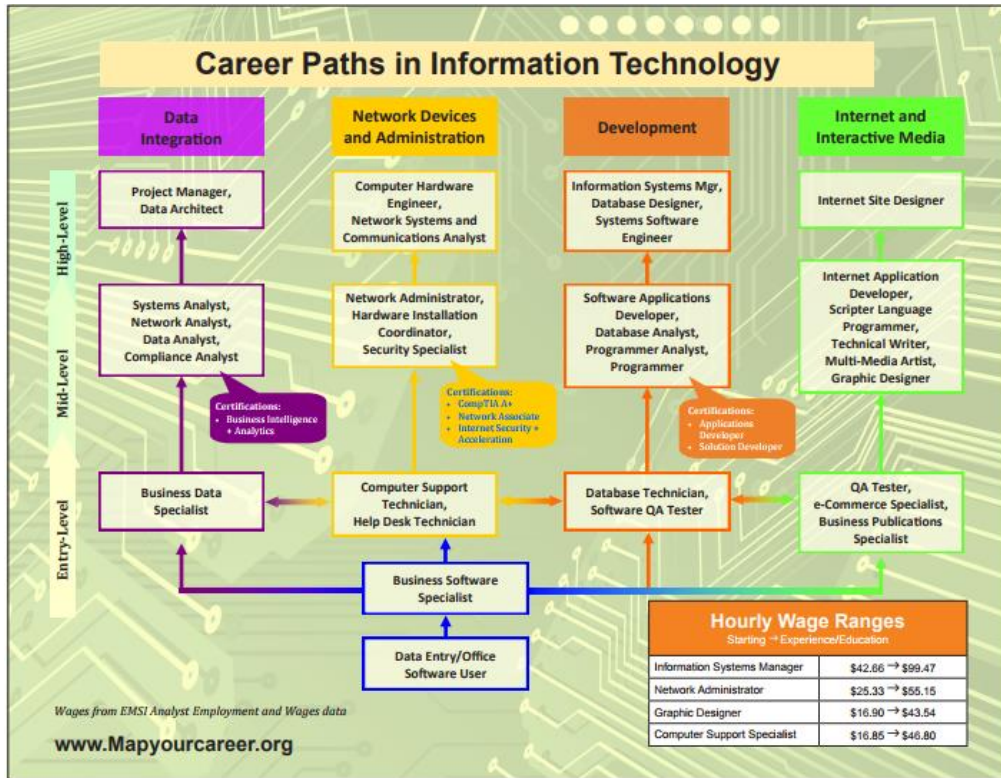
- Microsoft Certified Solutions Expert (MCSE)
- Red Hat Certified Engineer (RHCE)
- VMWare Certified Professional
- CompTIA Server+
- Linux Professional Institute Certification (LPIC)

5. Information Technology Careers Overview

Because computers have become such an integral part of everyday life, IT careers have become more common. Computer programmers, support specialists and systems analysts are just a few typical information technology careers.

- Programmers are the translators who convert software developers' designs into codes that computers understand
- Support specialists are the ambassadors who help ordinary people when they encounter problems with their computers
- Systems analysts work with businesses to ensure that the companies' computers and networks are working efficiently

<https://certification.comptia.org/why-certify/roadmap>



Each industry map shows the current trends, sample wages and career pathways. Explore the maps and additional information at www.MapYourCareer.org.

Interactive Media is a subsector of the IT industry that is growing in our region. It includes design and production of video and computer games. Please see the Interactive Media career pathways map at www.MapYourCareer.org for more information.

Information Technology (IT) is one of the strongest industries in our region. Big name companies (like Microsoft, Nintendo and Amazon) and smaller tech firms are in need of skilled workers. Network administrators, software engineers, programmers and database developers are essential to many businesses, and these jobs are expected to grow consistently over the next several years.

Plan more with the WDC's Self-Sufficiency Calculator at www.thecalculator.org.

IT Certification Roadmap

Explore the possibilities with the CompTIA Interactive IT Roadmap at: CompTIA.org/CertsRoadmap

CompTIA

Certifications validate expertise in your chosen career.

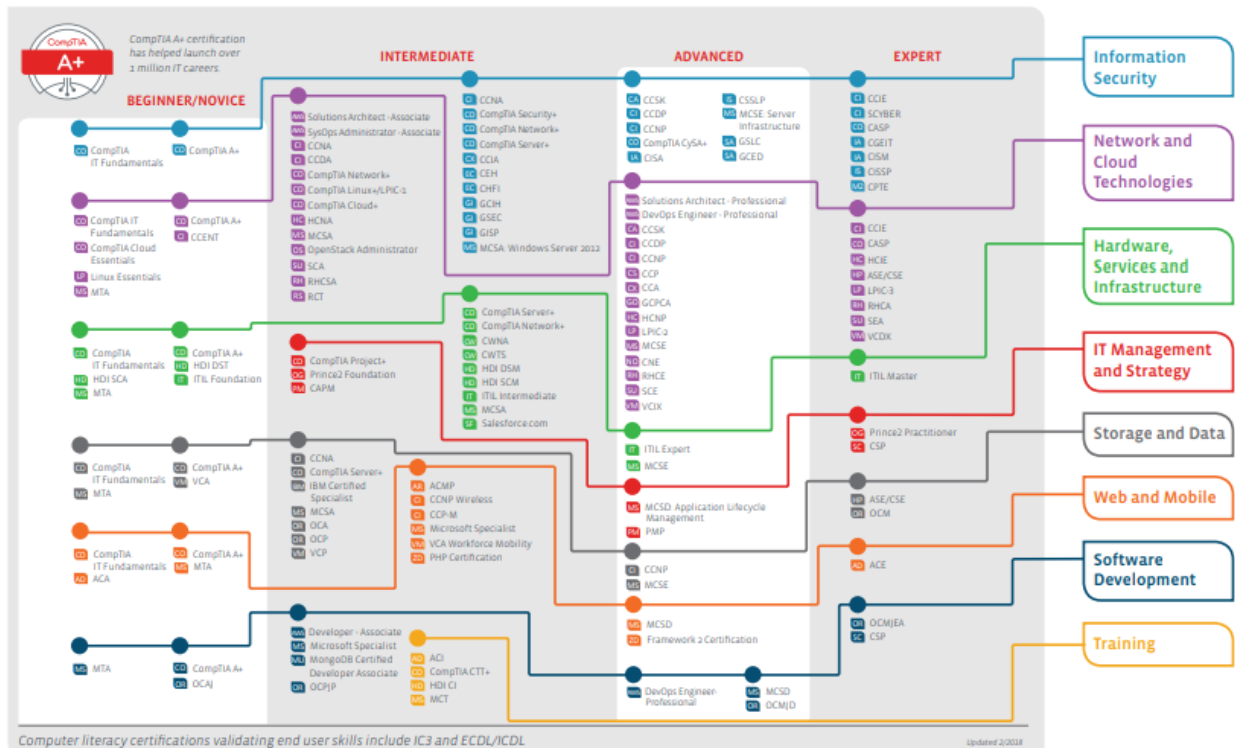


Figure 2- Reference 3

6. Security Auditor:

A. What does Security Auditor do?

A Security Auditor probes the safety and effectiveness of computer systems and their related security components.

After conducting a security audit, they issue a detailed report that outlines the effectiveness of the system, explains any security issues and suggests changes and improvements.

B. Security Auditor responsibilities:

In this mid-level role, you may be required to:

- Plan, execute and lead security audits across an organization
- Inspect and evaluate financial and information systems, management procedures and security controls
- Evaluate the efficiency, effectiveness and compliance of operation processes with corporate security policies and related government regulations
- Develop and administer risk-focused exams for IT systems
- Review or interview personnel to establish security risks and complications
- Execute and properly document the audit process on a variety of computing environments and computer applications
- Assess the exposures resulting from ineffective or missing control practices
- Accurately interpret audit results against defined criteria
- Weigh the relevancy, accuracy and perspective of conclusions against audit evidence
- Provide a written and verbal report of audit findings
- Develop rigorous “best practice” recommendations to improve security on all levels
- Work with management to ensure security recommendations comply with company procedure
- Collaborate with departments to improve security compliance, manage risk and bolster effectiveness
- Travel extensively (Canadian citizen status will help however Permanent residence with US Visa is always an option)
- Some Security Auditors work as independent consultants; others are integral members of IT security teams. Senior Security Auditors, like Senior Security Architects, may answer to C-level executives

In our industry, there are plenty of regulations exists in the market place for the entities and they are bound to show their compliance with the specific regulations as per their business need e.g. PCI for those who are in payment transaction business,

HITRIST/HIPPA who are in healthcare business and GDPR for those who store/process and transmit EU citizen personal information.

C.Security Auditor career paths:

Just starting out on your career path? Consider an entry-level job that will give you some exposure to security issues. For example:

- Security Administrator (Technology Firewall, MFA, RSA, SIEM, Load-balancer, VPNs etc)
- Network Administrator (Cisco, Juniper, Dell, HP, PaloAlto etc.)
- System Administrator (MicroSoft, vMware, HyperVisor, RH/Linux/Unix/ubuntu etc)

On the rung above this level are dedicated IT security positions such as:

- Security Specialist
- Security Analyst
- Security Engineer
- Security Consultant

Some auditors choose to stay forever in the world of technical testing. But if you're interested in shifting to management, you could investigate:

- Security Manager
- IT Project Manager
- Security Director
- CISO

D.Similar jobs:

Security Auditors are known by a variety of names. Some of them (like IT Auditor) may have testing tasks that are unrelated to security.

- Information Security Auditor
- Information Systems Auditor
- IA Auditor
- IT Auditor

E. Certification recommended for IT Auditors and security professionals:

• Information Security

- i. *(ISC)2 Certified Information System Security Professional (CISSP)* is a high-level credential focused on security policy and management. This is the most frequently mentioned certification in the business. It was also one of the top-paying IT security certifications in 2014.
- ii. *ISACA Certified Information Security Manager (CISM)* is geared towards people in managerial positions (e.g. CIO of IT security).
- iii. *CEH: Certified Ethical Hacker* is often discussed among white hat hackers and penetration testers
- iv. Certified ISO 27001 Lead Implementer 1

• Audit

- i. *ISACA Certified Information Systems Auditor (CISA)* is designed for professionals who audit, control, monitor and assess information technology and business systems.
- ii. *GIAC Systems and Network Auditor (GSNA)* is for incident handlers responsible for detecting, responding to and resolving computer security incidents.
- iii. Certified ISO 27001, Lead Auditor, Internal Auditor 1
- iv. IRCA ISMS Auditor or higher (e.g., Auditor/Lead Auditor, Principal Auditor)
- v. IIA Certified Internal Auditor (CIA)

F. Work experience:

Many security auditors have little dedicated security experience, but have done lots of work in IT. Broadly speaking, Security Auditors are expected to have around 3-6 years of experience in general IT. Senior Security Auditors often have 5+ years of auditing experience.

Please note people with Information Technology and Security background are more successful in IT security Audit than the people who just completed CISA and have no technical hands on experience on technology.

G. Hard skills:

Wherever and whenever you can, gain experience in auditing computer applications and information systems of varying complexity. Employers may also specify a working knowledge of:

- Working knowledge of regulatory and industry data security standards (e.g. PCI-DSS, HIPAA, HITRUST, EI3PA, SOC1/2, GDPR, SOX, NIST, Privacy Shield, AUP)
- ISO 27001/27002, ITIL and COBIT frameworks
- Windows, UNIX and Linux operating systems
- MSSQL and ORACLE databases
- C, C++, C#, Java and/or PHP programming languages
- ACL, IDEA and/or similar software programs for data analysis
- Fidelis, ArcSight, Niksun, Websense, ProofPoint, BlueCoat and/or similar auditing and network defense tools
- Firewall and intrusion detection/prevention protocols
- Access Control fundamentals
- VLANs and network segmentation concepts

H. Soft skills:

- Brush up on your oral and written communication skills – a Security Auditor is often judged by the clarity and thoroughness of his/her reports
- Employers will also be looking for candidates who aren't afraid of travel. Auditors frequently have to visit a wide variety of sites to gather data (onsite)

References:

1.
 - a) <http://noc.esdc.gc.ca/English/NOC/SearchNocCode.aspx?ver=11>
 - b) <https://www.ieltscanada.ca/>
 - c) <https://www.wes.org/ca/>
 - d) <https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/express-entry/become-candidate/eligibility/federal-skilled-workers.html>
2. <https://www.randstad.ca/job-seeker/job-tips/archives/most-in-demand-it-certifications-in-2016-486/>
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4. <https://www.cyberdegrees.org/jobs/security-auditor/>
5. <https://www.pcisecuritystandards.org>

