



وزارة الاتصالات  
وتقنية المعلومات  
MINISTRY OF COMMUNICATIONS  
AND INFORMATION TECHNOLOGY

# **SFIA Mapping to Saudi Classification of Professions**

Matthew Burrows

19 March 2021

Copyright © 2021 Ministry of Communications and Information Technology, Saudi Arabia. All rights reserved.

This document comprises proprietary and confidential information and copyright material. It must not be reproduced, used, published, or disclosed to third parties, in part or whole, without prior written consent.

The information in this document is subject to change without notice.

All trademarks acknowledged.

**SFIA** is a registered trademark of the **SFIA Foundation**, and is used by permission in accordance with licences issued by the SFIA Foundation.

**SkillsTx** is a registered trademark of **Tx Management Systems Pty Ltd**. Registered in Australia, ABN 55 608 536 456 ACN 608 536 456. Registered Office: Unit 1, 86 Shore Street W, Ormiston, Brisbane, QLD 4160, Australia, and is used under licence by the following organisations:

**BSM impact Limited**. Registered in England and Wales, Company Number 3611271. Registered Office: Bank House, 81 St Judes Road, Englefield Green, Surrey, England, TW20 0DF United Kingdom.

**BSM impact Inc.** Company Number 2017-000770459. Registered Office: 30 N Gould St Ste 5520, Sheridan, Wyoming, WY 82801, USA.

**Digital Skills Management Pty Ltd**. Registered in Australia, ABN 37 627 553 502 ACN 627 553 502. Registered Office: Unit 1, 86 Shore Street W, Ormiston, Brisbane, QLD 4160, Australia

## Document Information

This document has been produced as part of a package of works awarded by the Ministry of Communications and Information Technology (MCIT), through their agent Takamol, to BSM impact Inc., the US registered operating company of SkillsTx, who are a Global SFIA Accredited Partner and Global SFIA Training Provider, accredited by the SFIA Foundation. <https://skillstx.com>



All content has been produced under the supervision of Matthew Burrows, SkillsTx President, a SFIA Accredited Consultant and Trainer who is also a member of the SFIA Council and the Global Design Authority Board for SFIA.

Title	Information
Title:	SFIA Mapping to Saudi Classification of Professions
File name:	MCIT_SFIA_MappingForSaudiClassificationOfProfessions_March2021

## Document History

Version	Date	Author	Description	Status
1.0	17 June 2020	Matthew Burrows	Initial draft	For review
1.1	29 July 2020	Matthew Burrows & John Boyle	SFIA mapping added for a couple of sample occupations ready for review to verify approach	For review
1.2	19 March 2021	Matthew Burrows	Approved profiles added	Approved

## Contents

<b>1. DOCUMENT PURPOSE .....</b>	<b>6</b>
<b>2. BACKGROUND .....</b>	<b>6</b>
ISCO-08 .....	6
SAUDI CLASSIFICATION OF PROFESSIONS.....	9
SAUDI UNIFIED CLASSIFICATION OF OCCUPATIONS .....	9
<b>3. MAPPING APPROACH TO SFIA .....</b>	<b>11</b>
USING THE MAPPED CONTENT .....	11
APPROACH .....	11
RESPONSIBILITY ATTRIBUTES AND PROFESSIONAL SKILLS .....	11
SKILL LEVELS.....	11
<b>4. MAPPED CONTENT .....</b>	<b>15</b>
CYBERSECURITY CEO.....	18
RESEARCH & DEVELOPMENT MANAGER.....	20
PRODUCT DEVELOPMENT MANAGER.....	22
RESEARCH STUDIES MANAGER .....	24
IT MANAGER .....	26
IT ENGINEERING MANAGER.....	28
COMMUNICATIONS MANAGER .....	30
COMMUNICATIONS ENGINEERING MANAGER.....	32
COMMUNICATIONS NETWORKS' MANAGER.....	34
SOFTWARE MANAGER .....	36
IT SYSTEMS MANAGER .....	38
DATA SECURITY MANAGER .....	40
IT TECHNICAL SUPPORT MANAGER .....	42
CALL CENTER MANAGER .....	44
DATABASE MANAGER.....	46
CYBERSECURITY MANAGER .....	48
IT ENGINEER .....	50
IT SYSTEM ENGINEER.....	52
NETWORK ENGINEER.....	54
NETWORK ENGINEERING TECHNOLOGY SPECIALIST.....	56
SOFTWARE ENGINEER .....	58
ELECTRONICS ENGINEER .....	60
ELECTRONICS TECH ENGINEER .....	62
ELECTRONIC ENGINEERING TECH SPECIALIST.....	64
COMPUTER ENGINEER .....	66
COMPUTER TECHNICAL ENGINEER.....	68
IT TECHNOLOGY ENGINEERING SPECIALIST.....	70
DEVICE ELECTRONIC ENGINEER.....	72
MEDICAL DEVICES ENGINEER .....	74
MEDICAL DEVICES TECHNICAL ENGINEER.....	76
MEDICAL DEVICES ENGINEERING TECHNOLOGY SPECIALIST .....	78
COMMUNICATIONS ENGINEER.....	80
RADIO ENGINEER.....	82
BROADCAST ENGINEER.....	84
RADAR ENGINEER .....	86

IT SOFTWARE AND APPLICATIONS TRAINER .....	88
IT TRAINER .....	90
CYBERSECURITY CURRICULUM DEVELOPER .....	92
CYBERSECURITY TRAINER .....	94
INFORMATION TECHNOLOGY AND TELECOMMUNICATION DEVICES SALES SPECIALIST .....	96
COMPUTER SCIENCE SPECIALIST .....	98
INFORMATION SYSTEMS ANALYST .....	100
SYSTEM DESIGNER .....	102
CYBER-SECURITY SYSTEMS DEVELOPER .....	104
SYSTEMS SECURITY ANALYST .....	106
CYBER-SECURITY SPECIALIST .....	108
GAP ASSESSMENT SPECIALIST .....	110
BUSINESS SOLUTIONS DESIGNER .....	112
CLOUD COMPUTING SPECIALIST .....	114
SECURE CLOUD COMPUTING SPECIALIST .....	116
BREACH TESTING SPECIALIST .....	118
SOFTWARE DEVELOPER .....	120
SOFTWARE ENGINEER .....	122
SOFTWARE DESIGNER .....	123
PROGRAMMER ANALYST .....	125
APPLICATION DEVELOPER .....	126
CYBERSECURITY DEVELOPER .....	128
WEBSITE DEVELOPER .....	130
DIGITAL GAMING DEVELOPER .....	132
APPLICATIONS PROGRAMMER .....	134
SOFTWARE SECURITY EVALUATOR .....	136
SYSTEMS TESTER .....	138
SOFTWARE TESTER .....	140
CYBERSECURITY RESEARCHER .....	142
MALWARE ENGINEERING SPECIALIST .....	144
DATABASE DESIGNER .....	146
DATABASE MANAGEMENT SPECIALIST .....	148
DATABASE ANALYST .....	150
DATABASE PROGRAMMER .....	152
DATA SECURITY SPECIALIST .....	154
SYSTEM ADMINISTRATOR .....	156
NETWORK MANAGEMENT SPECIALIST .....	158
INFRASTRUCTURE ANALYST .....	160
CYBER-SECURITY ARCHITECTURE DESIGNER .....	162
SERVER SPECIALIST .....	164
DATA CENTER SPECIALIST .....	166
INFRASTRUCTURE CYBER DEFENSE SPECIALIST .....	168
NETWORK ANALYST .....	170
TELECOMMUNICATION ANALYST .....	171
DIGITAL CRIMINAL INVESTIGATION SPECIALIST .....	173
ARTIFICIAL INTELLIGENCE SPECIALIST .....	175
CYBER INCIDENTS RESPONSE SPECIALIST .....	177
CYBER DEFENCE SPECIALIST .....	179
CYBERSECURITY AI SPECIALIST .....	181
CYBERSECURITY DATA SCIENCE SPECIALIST .....	183

DATA MINING SPECIALIST.....	185
BIG DATA SPECIALIST.....	187
DATA SCIENCE SPECIALIST .....	188
TECHNICAL CONTRACTS MANAGEMENT SPECIALIST .....	190
DIGITAL TRANSFORMATION SPECIALIST .....	192
TECHNICAL SUPPORT SPECIALIST .....	194
ENCRYPTION SPECIALIST .....	196
IDENTITY AND PERMISSION SPECIALIST .....	198
CYBER-SECURITY THREAT INTELLIGENCE ANALYST.....	200
CYBER THREAT DETECTION SPECIALIST .....	202
CYBER-SECURITY ENGINEER FOR CYBER CONTROL SYSTEMS AND OPERATIONAL TECHNOLOGIES.....	204
CYBERSECURITY ARCHITECTURE DESIGNER FOR INDUSTRIAL CONTROL SYSTEMS AND OPERATIONAL TECHNOLOGIES .....	206
CYBERSECURITY DEFENSE ANALYST FOR INDUSTRIAL CONTROL SYSTEMS AND OPERATIONAL TECHNOLOGIES .....	208
CYBERSECURITY RISK SPECIALIST FOR INDUSTRIAL CONTROL SYSTEMS AND OPERATIONAL TECHNOLOGIES.....	210
CYBER INCIDENT RESPONSE SPECIALIST FOR INDUSTRIAL CONTROL SYSTEMS AND OPERATIONAL TECHNOLOGIES.....	212
CYBERCRIME INVESTIGATOR.....	214
RADIO BROADCAST ELECTRONIC TECHNICIAN .....	216
TELEVISION BROADCAST ELECTRONIC TECHNICIAN.....	218
ELECTRONIC DEVICES TECHNICIAN.....	220
ELECTRONIC DEVICES MAINTENANCE TECHNICIAN.....	222
PRECISION INSTRUMENTS TECHNICIAN .....	224
DIGITAL EQUIPMENT TECHNICIAN .....	226
AUTOTRONICS TECHNICIAN.....	228
MEDICAL DEVICES TECHNICIAN.....	230
ELECTRONIC ENGINEERING TECHNICIAN .....	232
IT OPERATIONS TECHNICIAN .....	234
COMMUNICATIONS OPERATIONS TECHNICIAN .....	236
DIGITAL PRINTING TECHNICIAN.....	238
IT SUPPORT TECHNICIAN .....	240
COMMUNICATIONS SUPPORT TECHNICIAN .....	242
SOFTWARE SUPPORT TECHNICIAN .....	244
DATABASE SUPPORT TECHNICIAN.....	246
IT NETWORK TECHNICIAN.....	248
COMMUNICATIONS NETWORKS TECHNICIAN .....	250
COMMUNICATION SYSTEMS TECHNICIAN.....	252
COMPUTER SYSTEMS TECHNICIAN .....	254
WEBSITE TECHNICIAN .....	256
WEBSITE ADMINISTRATOR.....	258
WEBSITE MAINTENANCE TECHNICIAN .....	260
WIRED COMMUNICATION ENGINEERING TECHNICIAN .....	262
WIRELESS COMMUNICATION ENGINEERING TECHNICIAN .....	264

### 1. Document Purpose

Following the adoption of SFIA, the Skills Framework for the Information Age, across the Kingdom of Saudi Arabia, this document aims to provide high-level definitions for a standardised set of occupations in the digital and technology-based specialisms which SFIA provides skill descriptions for.

### 2. Background

The General Authority for Statistics in KSA has produced a **Saudi Classification of Professions** which is mapped to **ISCO-08**, the **International Standard Classification of Occupations** produced by the International Labour Office in Geneva.

#### ISCO-08

ISCO-08 provides a classification system for occupations in a 4-level structure:

- Major groups
- Sub-major groups
- Minor groups
- Unit groups

ISCO-08 provides a description for each of the 4 group levels above, but doesn't provide descriptions for individual occupations within each unit group, or define the jobs and job titles within an occupation – instead it lists some examples of occupations within each unit group. A spreadsheet is available containing an "Index of occupation titles" within each unit group.

*A Job is defined for the purposes of ISCO-08 as a set of tasks and duties performed, or meant to be performed, by one person, including for an employer or in self employment. An occupation is defined as a set of jobs whose main tasks and duties are characterized by a high degree of similarity.*

Here is an example of the structure within ISCO-08:

- Major group 2 is **Professionals**
- Sub-major group 25 is **Information and Communications Technology Professionals**
- Minor group 251 is **Software and Applications Developers and Analysts**
- Unit group 2512 is **Software Developers**

The information provided by ISCO-08 for this area is as follows:

#### Major group

- Major Group 2
- Professionals
  - Professionals increase the existing stock of knowledge; apply scientific or artistic concepts and theories; teach about the foregoing in a systematic manner; or engage in any combination of these activities. Competent performance in most occupations in this major group requires skills at the fourth ISCO skill level.
  - Tasks performed by professionals usually include: conducting analysis and research, and developing concepts, theories and operational methods; advising on or applying existing knowledge related to physical sciences, mathematics, engineering and technology, life sciences, medical and health services, social sciences and humanities; teaching the theory

and practice of one or more disciplines at different educational levels; teaching and educating persons with learning difficulties or special needs; providing various business, legal and social services; creating and performing works of art; providing spiritual guidance; preparing scientific papers and reports. Supervision of other workers may be included.

- Occupations in this major group are classified into the following sub-major groups:
  - 21 Science and Engineering Professionals
  - 22 Health Professionals
  - 23 Teaching Professionals
  - 24 Business and Administration Professionals
  - 25 Information and Communications Technology Professionals
  - 26 Legal, Social and Cultural Professionals

### Sub-major group

- Sub-Major Group 25
- Information and Communications Technology Professionals
  - Information and communications technology professionals conduct research; plan, design, write, test, provide advice and improve information technology systems, hardware, software and related concepts for specific applications; develop associated documentation including principles, policies and procedures; and design, develop, control, maintain and support databases and other information systems to ensure optimal performance and data integrity and security.
  - Tasks performed by workers in this sub-major group usually include: researching information technology use in business functions; identifying areas for improvement and researching the theoretical aspects and operational methods for the use of computers; evaluating, planning and designing hardware or software configurations for specific applications including for Internet, Intranet and multimedia systems; designing, writing, testing and maintaining computer programs; designing and developing database architecture and database management systems; developing and implementing security plans and data administration policy, and administering computer networks and related computing environments; analysing, developing, interpreting and evaluating complex system design and architecture specifications, data models and diagrams in the development, configuration and integration of computer systems.
  - Occupations in this sub-major group are classified into the following minor groups:
    - 251 Software and Applications Developers and Analysts
    - 252 Database and Network Professionals

### Minor group

- Minor Group 251
- Software and Applications Developers and Analysts
  - Software and applications developers and analysts conduct research; plan, design, write, test, provide advice on and improve information technology systems such as hardware, software and other applications to meet specific requirements. Competent performance in most occupations in this sub-major group requires skills at the fourth ISCO skill level.
  - Tasks performed usually include: researching information technology use in business functions and identifying areas in which improvements could be made to maximize effectiveness and efficiency; conducting research into the theoretical aspects of and

operational methods for the use of computers; evaluating, planning and designing hardware or software configurations for specific applications; designing, writing, testing and maintaining computer programs for specific requirements; evaluating, planning and designing Internet, Intranet and multimedia systems.

- Occupations in this minor group are classified into the following unit groups:
  - 2511 Systems Analysts
  - 2512 Software Developers
  - 2513 Web and Multimedia Developers
  - 2514 Applications Programmers
  - 2519 Software and Applications Developers and Analysts Not Elsewhere Classified

### Unit group

- 2511 Systems Analysts
  - Systems analysts conduct research, analyse and evaluate client information technology requirements, procedures or problems, and develop and implement proposals, recommendations, and plans to improve current or future information systems.
  - Tasks include –
    - (a) consulting with users to formulate document requirements and with management to ensure agreement on systems principles;
    - (b) identifying and analysing business processes, procedures and work practices;
    - (c) identifying and evaluating inefficiencies and recommending optimal business practices and system functionality and behaviour;
    - (d) taking responsibility for deploying functional solutions, such as creating, adopting and implementing system test plans;
    - (e) developing functional specifications for use by systems developers;
    - (f) expanding or modifying systems to improve workflow or serve new purposes;
    - (g) coordinating and linking the computer systems within an organization to increase compatibility.
  - Examples of the occupations classified here:
    - Business analyst (IT)
    - Computer scientist
    - Information systems analyst
    - Systems consultant
    - Systems designer (IT)
  - Some related occupations classified elsewhere:
    - Systems administrator (computers) – 2522
    - Communications analyst (computers) – 2523
    - Network analyst – 2523

The “Index of occupation titles” spreadsheet contains the following list for unit group 2511:

- Administrator, SAP: business analysis
- Analyst, business: IT
- Analyst, business: systems design
- Analyst, computer: business analysis
- Analyst, information systems
- Analyst, SAP



- Analyst, systems: computers
- Architect, business solutions
- Architect, business: business analysis
- Architect, information: business analysis
- Architect, solutions: business
- Consultant, business: information technology
- Consultant, systems: computers
- Designer, systems: computers
- Designer, systems: IT
- Engineer, business process: information technology
- Scientist, computer
- Technologist, information: business analysis

### Saudi Classification of Professions

The Saudi Classification is built upon ISCO-08, and extends it by providing a set of occupations for each unit group. In doing so, it adds 2 more digits to the ISCO-08 codes, for example under unit group 2511 it lists the following:

- 251101 Computer Science Specialist
- 251102 Information Systems Analyst
- 251103 System Designer
- 251104 Cyber-security Systems Developer
- 251105 Systems Security Analyst
- 251106 Cyber-security Specialist
- 251107 Gap Assessment Specialist
- 251108 Business Solutions Designer
- 251109 Cloud Computing Specialist
- 251110 Secure Cloud Computing Specialist
- 251111 Breach Testing Specialist

The document provides a list of occupation classification titles, but not a list of jobs or job titles, nor a definition of the tasks and duties that would be found in each occupation or in the jobs within an occupation.

### Saudi Unified Classification of Occupations

The Saudi Unified Classification of Occupations is a series of 6 documents providing a more detailed set of data for each of the occupations. There is some variance in the 6-digit reference codes, and also in the occupation titles, when compared with the more recent Saudi Classification of Professions high-level document.

The 6 documents use the following structure for each of the occupations covered:

- Taxonomic data
  - 2 Professionals (Major group)
  - 25 Information and Communications Technology Professionals (Sub-major group)
  - 251 Software and application developers and analysts (Minor group)
  - 2511 Systems Analysts (Unit group)

- 251102 Information Systems Analysts (Occupation)
- Summary description of the Occupation
  - Collecting requirements and needs of the client and conducting interviews and organizing surveys and analysis of business operations and procedures, and common practices in workplaces, and the needs of clients as well as to the preparation of data models and functional flow charts and other of documents.
- Main tasks
  - Collect customer requirements and needs, conduct interviews and conduct surveys.
  - Analyze business processes, procedures, and practices in the workplace, customer needs, and then convert them into requirements in the system, and the drafting of design documents and flowcharts.
  - Preparation of data, diagrams flow functional charts and other documents, and the preparation of the elements required of the project and present them.
  - Perform tests and analyze performance appraisal, ensuring that programs, applications, and scripts follow to specified standards.
- Educational requirements
  - The minimum Educational level: Bachelor's degree
  - Required educational fields
    - Application and software development and analysis
- Behavioural and technical competencies
  - Behavioural competencies
    - Work Collective
    - Effective communication
    - Focus on quality of service
    - The ability to build relationships
    - Analytical thinking
  - Technical competencies
    - Knowledge of information systems
    - Information Systems Analysis
    - Business process analysis
    - Conducting tests
    - Ensure Quality

### 3. Mapping Approach to SFIA Using the mapped content

The mapping could be used in a number of ways:

- By organisations as a starting-point template for them to amend in an adopt-and-adapt style and reflect the unique mix of skills and competencies required by jobs within their organisations
- By individuals to compare their current SFIA-based skills profile against a SFIA-based job description or role profile, in order to support career choices and development planning. Using SFIA as a common language allows the individuals to perform gap analysis, making it easier to identify which skills and competencies, and at which levels, need to be targeted for development actions.
- As a number of universities and training providers have mapped their courses to SFIA, this mapping can be used to select development actions which are directly aligned to identified skill gaps and development priorities.
- Recruitment Advisors, Learning and Development specialists, Human Resources personnel, and Line Managers, can use these definitions generally throughout the stages of the skills management cycle, including for benchmarking, recruitment and development activity.

#### Approach

The mapping approach used aims to highlight the most common skills for each occupation, and the levels at which these skills and competencies would typically be practiced during the performance of jobs and roles within these occupations. It cannot be thought of as a complete and exhaustive list of all the skills and competencies required, as the same job or role within different teams or organisations will undoubtedly vary and require a slightly different mix of skills – based on the operating model, industry context, underlying technologies and methodologies, as well as the size and structure of the organisation.

#### Responsibility attributes and professional skills

ISCO-08 provides a list of tasks for each unit group, and this list has been used to highlight relevant SFIA descriptions, both for the generic responsibility attributes (Autonomy, Influence, Complexity, Knowledge and Business skills) and the professional skills, and the level or levels of these elements. The Saudi Classification documents have been used to confirm the range of generic responsibility attributes and levels applicable for each occupation, and also to identify SFIA professional skills and the range of levels applicable. Where a range of levels are shown, this demonstrates that the occupations may require those performing these tasks to practice at one or more of the listed levels. Some jobs in specific companies may require additional skills or the performance at high levels than indicated, so the list provide should be seen as a common starting point for consideration when defining role profiles or job descriptions for an organisation. Any skills and levels identified as 'required' are those which are likely to be absolutely required for the performance of these occupations at an acceptable professional level in a working environment. Skills and levels identified as 'desirable' should be viewed as optional, and are presented for consideration when using this document to help inform the construction of role profiles or job descriptions for an individual organization.

#### Skill levels

ISCO-08 contains a 4-level skill structure:

- Skill Level 1
  - Occupations at Skill Level 1 typically involve the performance of simple and routine physical or manual tasks. They may require the use of hand-held tools, such as shovels, or of simple electrical equipment, such as vacuum cleaners. They involve tasks such as cleaning; digging; lifting and carrying materials by hand; sorting, storing or assembling goods by hand (sometimes in the context of mechanized operations); operating non-motorized vehicles; and picking fruit and vegetables.
  - Many occupations at Skill Level 1 may require physical strength and/or endurance. For some jobs, basic skills in literacy and numeracy may be required. If required these skills would not be a major part of the work.
  - For competent performance in some occupations at Skill Level 1, completion of primary education or the first stage of basic education (ISCED-97 Level 1) may be required. A short period of on-the-job training may be required for some jobs.
  - Occupations classified at Skill Level 1 include office cleaners, freight handlers, garden labourers and kitchen assistants.
- Skill Level 2
  - Occupations at Skill Level 2 typically involve the performance of tasks such as operating machinery and electronic equipment; driving vehicles; maintenance and repair of electrical and mechanical equipment; and manipulation, ordering and storage of information.
  - For almost all occupations at Skill Level 2 the ability to read information such as safety instructions, to make written records of work completed, and to accurately perform simple arithmetical calculations is essential. Many occupations at this skill level require relatively advanced literacy and numeracy skills and good interpersonal communication skills. In some occupations these skills are required for a major part of the work. Many occupations at this skill level require a high level of manual dexterity.
  - The knowledge and skills required for competent performance in occupations at Skill Level 2 are generally obtained through completion of the first stage of secondary education (ISCED-97 Level 2). Some occupations require the completion of the second stage of secondary education (ISCED-97 Level 3), which may include a significant component of specialized vocational education and on-the-job training. Some occupations require completion of vocation-specific education undertaken after completion of secondary education (ISCED-97 Level 4). In some cases experience and on-the-job training may substitute for the formal education.
  - Occupations classified at Skill Level 2 include butchers, bus drivers, secretaries, accounts clerks, sewing machinists, dressmakers, shop sales assistants, police officers, hairdressers, building electricians and motor vehicle mechanics.
- Skill Level 3
  - Occupations at Skill Level 3 typically involve the performance of complex technical and practical tasks that require an extensive body of factual, technical and procedural knowledge in a specialized field. Examples of specific tasks performed include: ensuring compliance with health, safety and related regulations; preparing detailed estimates of quantities and costs of materials and labour required for specific projects; coordinating, supervising, controlling and scheduling the activities of other workers; and performing technical functions in support of professionals.
  - Occupations at this skill level generally require a high level of literacy and numeracy and well-developed interpersonal communication skills. These skills may include the ability to

understand complex written material, prepare factual reports and communicate verbally in difficult circumstances.

- The knowledge and skills required for competent performance in occupations at Skill Level 3 are usually obtained as the result of study at a higher educational institution for a period of 1–3 years following completion of secondary education (ISCED-97 Level 5b). In some cases extensive relevant work experience and prolonged on-the-job training may substitute for the formal education.
- Occupations classified at Skill Level 3 include shop managers, medical laboratory technicians, legal secretaries, commercial sales representatives, diagnostic medical radiographers, computer support technicians, and broadcasting and recording technicians.
- Skill Level 4
  - Occupations at Skill Level 4 typically involve the performance of tasks that require complex problem-solving, decision-making and creativity based on an extensive body of theoretical and factual knowledge in a specialized field. The tasks performed typically include analysis and research to extend the body of human knowledge in a particular field, diagnosis and treatment of disease, imparting knowledge to others, and design of structures or machinery and of processes for construction and production.
  - Occupations at this skill level generally require extended levels of literacy and numeracy, sometimes at a very high level, and excellent interpersonal communication skills. These skills usually include the ability to understand complex written material and communicate complex ideas in media such as books, images, performances, reports and oral presentations.
  - The knowledge and skills required for competent performance in occupations at Skill Level 4 are usually obtained as the result of study at a higher educational institution for a period of 3–6 years leading to the award of a first degree or higher qualification (ISCED-97 Level 5a or higher). In some cases extensive experience and on-the-job training may substitute for the formal education, or may be required in addition to formal education. In many cases appropriate formal qualifications are an essential requirement for entry to the occupation.
  - Occupations classified at Skill Level 4 include sales and marketing managers, civil engineers, secondary school teachers, medical practitioners, musicians, operating theatre nurses and computer systems analysts.

ISCO-08 provides information on application of the four skill levels to the major groups. SFIA provides a more granular 7-level structure, as the nature of technology-based specialist roles and the development planning of individuals within these roles require more than 4 levels to adequately describe the differences between performance of individual skills and competencies within these professions.

A broad mapping of the ISCO-08 information to SFIA levels is possible, in order to provide a rough guide of the likely range, although this should not be considered absolute.

As SFIA is designed to describe technical professional roles, SFIA is not relevant to a large number of occupations covered by ISCO—08, and for many of these SFIA level 1 may be higher than typically required.

ISCO-08 major groups	ISCO-08 skill level	Typical range of SFIA levels
1 Managers	3 + 4	5 to 7
2 Professionals	4	4 to 7

## SFIA Mapping to Saudi Classification of Professions

3 Technicians and Associate Professionals	3	1 to 3
4 Clerical Support Workers 5 Services and Sales Workers 6 Skilled Agricultural, Forestry and Fishery Workers 7 Craft and Related Trades Workers 8 Plant and Machine Operators, and Assemblers	2	1 to 2
9 Elementary Occupations	1	SFIA is not generally applicable to occupations listed in this group
0 Armed Forces Occupations	1 + 2 + 4	SFIA is not generally applicable to occupations listed in this group

## 4. Mapped Content

Mapping has only been provided for the occupations for which SFIA skills and competencies are relevant, as identified by MCIT.

The following key has been used for the mapped SFIA content:

### SFIA Generic Levels of Responsibility

AUTO	Autonomy
INFL	Influence
COMP	Complexity
KLGE	Knowledge
BSKL	Business skills

### SFIA Skills and Competencies

ADEV	Animation development
ARCH	Solution architecture
ASMG	Asset management
ASUP	Application support
AVMT	Availability management
BENM	Benefits management
BPRE	Business process improvement
BPTS	Business process testing
BSMO	Business modelling
BUAN	Business analysis
BURM	Business risk management
CFMG	Configuration management
CHMG	Change management
CIPM	Change implementation planning and management
CNSL	Consultancy
COPL	Continuity management
CORE	Conformance review
CPMG	Capacity management
CSMG	Customer service support
DATM	Data management
DBAD	Database administration
DBDS	Database design
DCMA	Facilities management
DEMM	Demand management
DESN	Systems design
DGFS	Digital forensics
DLMG	Systems development management
DTAN	Data modelling and design
EMRG	Emerging technology monitoring
ETDL	Learning delivery
ETMG	Learning and development management
FMIT	Financial management
GOVN	Enterprise IT governance
HCEV	User experience design
HSIN	Systems installation/decommissioning
HWDE	Hardware design

ICPM	Information content publishing
INAN	Analytics
INAS	Information assurance
INCA	Information content authoring
INOV	Innovation
IRMG	Information governance
ISCO	Information systems coordination
ITCM	Contract management
ITMG	IT management
ITOP	IT infrastructure
ITSP	Strategic planning
KNOW	Knowledge management
LEDA	Competency assessment
MEAS	Measurement
METL	Methods and tools
MKTG	Marketing
NTAS	Network support
NTDS	Network design
NTPL	Network planning
OCDV	Organisational capability development
ORDI	Organisation design and implementation
PBMG	Problem management
PDSV	Professional development
PEMT	Performance management
PENT	Penetration testing
PGMG	Programme management
POMG	Portfolio management
PORT	Porting/software configuration
PRMG	Project management
PROD	Product management
PROF	Portfolio, programme and project support
PROG	Programming/software development
QUAS	Quality assurance
QUMG	Quality management
RELM	Release and deployment
REQM	Requirements definition and management
RESC	Resourcing
RESD	Real-time/embedded systems development
RFEN	Radio frequency engineering
RLMT	Relationship management
RSCH	Research
SALE	Selling
SCAD	Security administration
SCTY	Information security
SEAC	Service acceptance
SFAS	Safety assessment
SFEN	Safety engineering
SINT	Systems integration and build
SLMO	Service level management
SORC	Sourcing
SSUP	Sales support



## SFIA Mapping to Saudi Classification of Professions

STMG	Storage management
STPL	Enterprise and business architecture
SUPP	Supplier management
SUST	Sustainability
SWDN	Software design
SYSP	System software
TEAC	Teaching and subject formation
TECH	Specialist advice
TEST	Testing
TMCR	Learning design and development
UNAN	User experience analysis
URCH	User research
USEV	User experience evaluation
USUP	Incident management
VISL	Data visualisation

## Cybersecurity CEO

Major group	1	Managers
Sub-major group	11	Chief executives, senior officials and legislators
Minor group	112	Managing directors and chief executives
Unit group	1120	Managing directors and chief executives
Occupation	112010	Cybersecurity CEO

**Summary of the occupation:** Direct the cybersecurity work within the entity, develop the vision and set the direction regarding the entity's cybersecurity strategies, and the strategies for the entity's cybersecurity-related resources and activities, and give advice to the organization's leadership on the effective management of cybersecurity risks.

### Main tasks:

- Design and integrate a cyber strategy that outlines the vision, mission and objectives, in line with the entity's strategic plan.
- Coordinate long-term strategic planning efforts with internal and external partners in cyber activities.
- Manage cybersecurity priorities in relation to cybersecurity strategic objectives and align them with the entity's strategy.
- Evaluate the effectiveness of the procurement function in addressing cybersecurity requirements and supply chain risks through procurement activities, and make recommendations for improvements.
- Manage and oversee the budget, employment and contracting in relation to information security.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Software and applications development and analysis
- Management and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know how to develop policies that reflect the objectives of systems' cybersecurity.
- Know how to develop skills and direct practical experience in situations simulating reality, via cyber competitions.
- Know the arising problems, risks and security gaps.
- Know laws, regulations, policies and ethics, pertaining to the cybersecurity and privacy.

- Expect the new and future threats of cybersecurity.

### SFIA Generic Levels of Responsibility

- AUTO7,INFL7,COMP7,KLGE7,BSKL7

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,SCTY6,SCTY7,ITSP5,ITSP6,SORC2,SORC3,SORC4,SORC5,SORC6

### SFIA Desirable Skills

- EMRG4,EMRG5,EMRG6

## Research & Development Manager

Major group	1	Managers
Sub-major group	12	Administrative and commercial managers
Minor group	122	Sales, marketing and development managers
Unit group	1223	Research and development managers
Occupation	122301	Research & Development Manager

**Summary of the occupation:** Participate in developing and preparing the general objectives, plans and initiatives for the work of research and development; manage the research and studies on various areas and topics related to the competencies and services of the entity; and ensure the availability of all the technical and human resources that ensure the conduct of daily operations as efficiently and effectively as possible.

### Main tasks:

- Manage and direct the process of planning the studies and researches; make recommendations on new research topics and projects that serve the interests of the entity; and develop and raise the efficiency of the performance of these projects.
- Supervise the process of establishing the bases and standards of studies and research activities as well as the relevant procedures manuals to ensure the quality and accuracy of the research and disseminate their benefits.
- Supervise the activities of research and studies related to the study of internal and external factors and challenges that may affect the entity in the short and long term; study the steps and initiatives to address these challenges; and make recommendations to the senior management in this regard.
- Supervise the processes of studying and analyzing different developmental initiatives and opportunities at the level of the different organizational units; and participate in leading and implementing them in coordination with all the concerned parties.
- Supervise the preparation of the specialized abstracts, reports and analysis; provide suggestions and recommendations to the senior management in order to improve the activities and services of the entity; and propose the developmental initiatives and projects.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Management and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Planning
- Development work
- Development economics
- Product development
- Research

### SFIA Generic Levels of Responsibility

- AUTO6,INFL6,COMP6,KLGE6,BSKL6

### SFIA Required Skills

- RSCH2,RSCH3,RSCH4,RSCH5,RSCH6,INOV5,INOV6

### SFIA Desirable Skills

## Product Development Manager

Major group	1	Managers
Sub-major group	12	Administrative and commercial managers
Minor group	122	Sales, marketing and development managers
Unit group	1223	Research and development managers
Occupation	122302	Product Development Manager

**Summary of the occupation:** Plan, direct and coordinate the product development projects; manage all the phases from the technical feasibility to production; and monitor the delivery according to the specific scope of work, schedules and budgets.

### Main tasks:

- Formulate the concepts of products and product development; study the markets and consumers to identify the requirements and set the objectives, timetables, budgets and resources; and develop the action plans, steps and tasks.
- Coordinate the activities, prices, production, sales and distribution on a daily basis across all the departments; and ensure that the operational objectives are consistently met as per the deadlines.
- Negotiate on the contracts and licenses for new technologies, products or packages using the standard processes; and coordinate with the experts in the functional areas.
- Establish and maintain relationships with the key department officials; and coordinate with the stakeholders to facilitate the product development initiatives and mitigate problems.
- Prepare the periodic reports on the status of products; communicate with the senior management; and provide information on the achievements, constraints and next steps.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Marketing and advertising

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Performance appraisals (methods)
- Staff development
- Market analysis
- Relational marketing
- International procurement

### SFIA Generic Levels of Responsibility

- AUTO6,INFL6,COMP6,KLGE6,BSKL6

### SFIA Required Skills

- PROD3,PROD4,PROD5,PROD6,SORC2,SORC3,SORC4,SORC5,SORC6

### SFIA Desirable Skills

- RLMT4,RLMT5,RLMT6

## Research Studies Manager

Major group	1	Managers
Sub-major group	12	Administrative and commercial managers
Minor group	122	Sales, marketing and development managers
Unit group	1223	Research and development managers
Occupation	122303	Research Studies Manager

**Summary of the occupation:** Plan, direct and coordinate the R&D activities and strategies; supervise the overall R&D program; and monitor the outcomes within the limits of the defined timetables and budgets.

### Main tasks:

- Develop the R&D programs in accordance with business requirements and the strategy of the entity; and set the objectives and budgets.
- Manage the R&D activities from the proposal and funding phase, through the implementation phase, and to obtaining the outcomes; and oversee the planning and conducting the daily work related to the management and staff.
- Lead and coordinate The R&D projects; and monitor the workflows in light of the timetables and allocated budgets.
- Select, train and supervise technicians and support staff; and monitor their performance.
- Develop policies and procedures; to ensure the compliance with HSE regulations, and supervise the implementation thereof.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Education science
- Management and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Budget design
- Budget responsibility
- Project / Plan Implementation
- Project management
- Occupational safety and health

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5



### SFIA Required Skills

- RSCH2,RSCH3,RSCH4,RSCH5,PRMG4,PRMG5,PEMT4,PEMT5

### SFIA Desirable Skills

## IT Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133001	IT Manager

**Summary of the occupation:** Take part in preparing action plans and programs associated with information technology, directly supervise preparing the operational plans including the analysis of works, development of programs and applications, follow and support the associated operations, in a manner that guarantees the quality and effectiveness thereof.

### Main tasks:

- Take part in preparing action plans and programs associated with information technology, design and develop programs and applications, and supervise the activities of support; with a view to providing the necessary technical solutions, when facing a problem or difficulty.
- Supervise identifying the needs of users at various organizational units, revise the same, and provide propositions on defining and developing the technical specifications of required laws and applications.
- Supervise all day-to-day operations of information technology, ensure adopting effective methodologies in the field of searching for programs and applications that meet the needs of final user, and ensure the security and appropriateness to the current techniques, requirements and specifications.
- Supervise developing and applying the necessary standards for ensuring the safety of information systems including the verification of users' identity and powers, deal with the potential risks and threats prior to the occurrence thereof, control the secrecy of data being transferred across the network, and ensure the continuation of service provision without interruption.
- Follow up on the recent developments associated with affairs and processes of IT, direct adopting the most appropriate methods, identify and ensure the availability of all resources and materials required for executing specialized works and activities, using the recent relevant methods and practices.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making

- Problem Solving

### Technical competencies:

- Systems theory and computer communications (teaching)
- Programming (PCs)
- Computers and peripherals
- IT law
- ICT Regulatory Law

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ARCH4,ARCH5,BUAN4,BUAN5,SCAD1,SCAD2,SCAD3,SCAD4,SCAD5,AVMT4,AVMT5

### SFIA Desirable Skills

- AVMT6,DATM3,DATM4,DATM5

## IT Engineering Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133002	IT Engineering Manager

**Summary of the occupation:** Take part in preparing action plans and programs associated with IT Engineering, directly supervise preparing the operational plans associated with IT Engineering, including building the recent infrastructure of IT systems, such as: computer servers and networks, design the operational model, and follow the operation and maintenance thereof, ensuring their quality and efficiency.

### Main tasks:

- Take part in preparing action plans and programs associated with IT Engineering, including the design, installment and maintenance of data centers, control units, networks, computer servers and associated systems, follow the workflow and ensure the full compliance with approved technical policies and procedures.
- Supervise all day-to-day processes of IT Engineering works, and provide the necessary technical experience and guidance; with a view to ensuring the maintenance of systems, devices and equipment utilized, besides maintaining and enhancing the efficiency thereof, in line with the associated technical manuals.
- Ensure the effective coordination with all concerned bodies, manage shared initiatives, efforts and projects, and ensure that IT Engineering processes are capable of providing the information required for performing the entrusted works accurately and effectively.
- Supervise preparing reports, researches and studies related to IT Engineering processes, identify difficulties and troubles facing work, study the same, analyze the grounds thereof, and provide the recommendations of necessary engineering solutions.
- Follow up on the recent developments associated with affairs and processes of IT Engineering, direct adopting the most appropriate methods, identify and ensure the availability of all resources and materials required for executing specialized works and activities, using the recent relevant methods and practices.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making

- Problem Solving

### Technical competencies:

- Security analysis (data security)
- Operating system
- Network Architecture
- IT law
- ICT Regulatory Law

### SFIA Generic Levels of Responsibility

- AUTO6,INFL6,COMP6,KLGE6,BSKL6

### SFIA Required Skills

- ITMG5,ITMG6,DCMA4,DCMA5,DCMA6,GOVN5,GOVN6

### SFIA Desirable Skills

- ITMG7

## Communications Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133003	Communications Manager

**Summary of the occupation:** Take part in developing the general strategy and main objectives, besides developing the plans, programs and projects of communication, directly supervise planning and organizing the communication-associated works, follow implementation of different works, in line with the operational plans, and ensure the availability of all technical and human resources that ensure effectiveness of workflow as much as possible.

### Main tasks:

- Take part in identifying the main targets and operational plans of communication at the body, develop and apply plans, programs and projects that contribute to achieving such targets, and assure the existence of accurate frameworks and metrics by which the level of achieving these strategic plans and objectives is determined.
- Follow communications operations at the body, ensure the effectiveness of all utilized communication devices and equipment, supervise the maintenance thereof, and ensure the availability of spare parts, equipment and resources required for maintenance.
- Coordinate with other organizational units; to identify their needs to communication services, and work on meeting them based upon certain plans and budgets.
- Follow up on the recent developments associated with communication devices and equipment, direct adopting the most appropriate methods, identify and ensure the availability of all resources and materials required for executing specialized works and activities, using the recent relevant methods and practices.
- Ensure the effective application of all communication-related rules and regulations, contact with staff for promoting their understanding of all updates, control their adherence to directions and instructions given thereto, and assure performing their tasks efficiently.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Internet/intranet (network administration)
- Telecommunications transmission
- Communication Protocol
- Telecommunication Law
- ICT Regulatory Law

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITSP5,NTPL5,POMG5,DLMG5,BENM5

### SFIA Desirable Skills

- ITMG5

## Communications Engineering Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133004	Communications Engineering Manager

**Summary of the occupation:** Take part in preparing action plans and programs associated with communications engineering, directly supervise preparing the operational plans associated with communications engineering, including the development and installment of wired and wireless communication systems, besides the development of infrastructure, and follow the operation and maintenance thereof, ensuring their quality and efficiency.

### Main tasks:

- Take part in preparing action plans and programs associated with communications engineering, including the design, installment and maintenance of wired and wireless communications systems, ensure providing the associated engineering solutions, such as: sites of equipment and wires, and provide energy equipment, means of control, alert, digital techniques... etc.
- Supervise all day-to-day processes of communications Engineering works, and provide the necessary technical experience and guidance; with a view to ensuring the maintenance of systems, devices and equipment utilized, besides maintaining and enhancing the efficiency thereof, in line with the associated technical manuals.
- Ensure the effective coordination with all concerned bodies, manage shared initiatives, efforts and projects, and ensure that communications engineering processes are capable of providing the information required for performing the entrusted works accurately and effectively.
- Supervise preparing reports, researches and studies related to communications engineering processes, identify difficulties and troubles facing work, study the same, analyze the grounds thereof, and provide the recommendations of necessary engineering solutions.
- Follow up on the recent developments associated with affairs and processes of communications engineering, direct adopting the most appropriate methods, identify and ensure the availability of all resources and materials required for executing specialized works and activities, using the recent relevant methods and practices.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making



- Problem Solving

### Technical competencies:

- Internet protocol (IP) telephony technology
- Synchronous Optical Networking (SONET)
- Computer telephony integration (CTI)
- Telecommunication Law
- ICT Regulatory Law

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,NTDS5,HSIN1,HSIN2,HSIN3,HSIN4,HSIN5

### SFIA Desirable Skills

- NTDS6

## Communications Networks' Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133005	Communications Networks' Manager

**Summary of the occupation:** Plan bases of utilization of local and wide area networks, coordinate and implement the same, and ensure the safety of network thanks to the security measures.

### Main tasks:

- Develop standards and guidelines of database utilization, access and supervision over the execution thereof.
- Plan, coordinate and implement the security measures for protecting information, ensure defending the network against any unauthorized access, damage, amendment or disclosure.
- Design and implement the services of configuration, replication, back-up & recovery for all settings of network, servers and applications.
- Supervise audits of services; to ensure the compliance with policies, besides the amendment of network settings and management systems accordingly.
- Develop and implement plans and procedures of risk addressing and data restoring.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Operational responsibility (computing)
- Routers (installation and maintenance)
- Server application platform
- Servers (installation and maintenance)
- System formwork erection

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,NTAS2,NTAS3,NTAS4,NTAS5,DBAD2,DBAD3,DBAD4,DBAD5,CORE3,CORE4,CORE5,AVMT4,AVMT5

### SFIA Desirable Skills

## Software Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133006	Software Manager

**Summary of the occupation:** Take part in planning, directing and coordinating strategy and activities of software development, manage the day-to-day processes in terms of delivery, issuance and promotion, and supervise software development team.

### Main tasks:

- Create the programs of software development in accordance with the facility strategy and the requirements of commercial business, and identify targets and budgets.
- Manage software delivery, issuance and promotion by software development team, proceed the day-to-day processes of management and staff, control the delivery of programs within the identified deadlines, standards of quality in addition to the allocated budgets.
- Select, train and supervise the developers, control the developers' performance as regards the determination of occupational requirements and the delivery of software codes.
- Identify facility or market needs, through collecting and analyzing market or company data, construe the outputs and work on growth opportunities.
- Supervise software audits; to assure the lack of any errors and discrepancies, and take the corrective measures prior to the market release.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Leadership
- People Mangement
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Software development
- C (programming language)
- Project management software
- Advanced Business Application Programming (ABAP)
- Product development

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DLMG5,PEMT4,PEMT5,PROG2,PROG3,PROG4,PROG5

### SFIA Desirable Skills

- CNSL5

## IT Systems Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133007	IT Systems Manager

**Summary of the occupation:** Plan, direct and coordinate IT strategy and activities, provide and manage the devices, programs, maintenance, training and advice, and ensure the adherence to policies and regulations.

### Main tasks:

- Develop information security's strategies in accordance with the facility strategy and the requirements of commercial business, and identify targets and budgets.
- Manage IT activities, including contracts on the devices and software, train users, undertake maintenance works, and proceed the day-to-day processes of management and staff.
- Serve as an escalation point for the principal stakeholders, solve problems, and follow-up-on the complaints or enquiries raised by those principal stakeholders.
- Select, train and supervise business analysts, developers and support specialists, control the performance thereof in maintenance, training and communication with users.
- Supervise the services' audits; in order to ensure the compliance with workforce-associated capability and efficiency's standards, develop IT policies, procedures and practices at facility, and supervise the implementation thereof.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Mangement
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Systems theory and computer communications (teaching)
- Business systems
- Application development library
- Application server
- Business intelligence software

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,ITMG5,USUP2,USUP3,USUP4,PEMT4,PEMT5,CORE3,CORE4,CORE5

### SFIA Desirable Skills

- ITMG6,ITMG7

## Data Security Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133008	Data Security Manager

**Summary of the occupation:** Study and evaluate the risks, identify security standards and data system protection procedures, find the technical solutions for dealing with data systems-associated risks, prepare emergency plans, maintain developing and deploying security protection of data, prepare, display and maintain the specialized documents and reports in the field of data security management.

### Main tasks:

- Study and evaluate the security and technical risks of data, information, software, devices and accessories, develop the security policies for protection, and identify the methods of sensitive data encryption.
- Conduct researches and studies on the latest technologies of systems' protection, select the most appropriate ones to be applied, and keep anti-virus software up-to-date.
- Provide the technical solutions for dealing with risks associated with data systems' networks, such as: risks of unauthorized access.
- Prepare emergency plans to mitigate the consequences of disasters, and develop plans for the application of specific rules and regulations on data systems' security.
- Prepare the specialized documents and reports related to the management of data security, provide, display, clarify the appropriate recommendations and solutions, and save them on a database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Security analysis (data security)
- Encryption (data security)
- Access control systems
- Access nets (installation and maintenance)
- Communications protocol (surveillance)



### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,DATM2,DATM3,DATM4,DATM5,AVMT4,AVMT5

### SFIA Desirable Skills

- INAS5

## IT Technical Support Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133009	IT Technical Support Manager

**Summary of the occupation:** Take part in preparing action plans and programs associated with information technology, directly supervise preparing the operational plans including the analysis of works, development of programs and applications, follow and support the associated operations, in a manner that guarantees the quality and effectiveness thereof.

### Main tasks:

- Take part in preparing action plans and programs associated with information technology, design and develop programs and applications, and supervise the activities of support; with a view to providing the necessary technical solutions, when facing a problem or difficulty.
- Supervise identifying the needs of users at various organizational units, revise the same, and provide propositions on defining and developing the technical specifications of required laws and applications.
- Supervise all day-to-day operations of information technology, ensure adopting effective methodologies in the field of searching for programs and applications that meet the needs of final user, and ensure the security and appropriateness to the current techniques, requirements and specifications.
- Supervise developing and applying the necessary standards for ensuring the safety of information systems including the verification of users' identity and powers, deal with the potential risks and threats prior to the occurrence thereof, control the secrecy of data being transferred across the network, and ensure the continuation of service provision without interruption.
- Follow up on the recent developments associated with affairs and processes of IT, direct adopting the most appropriate methods, identify and ensure the availability of all resources and materials required for executing specialized works and activities, using the recent relevant methods and practices.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making

- Problem Solving

### Technical competencies:

- Systems theory and computer communications (teaching)
- Programming (PCs)
- Computers and peripherals
- IT law
- ICT Regulatory Law

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,REQM2,REQM3,REQM4,REQM5,SCTY3,SCTY4,SCTY5,AVMT4,AVMT5

### SFIA Desirable Skills

## Call Center Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133010	Call Center Manager

**Summary of the occupation:** Take part in identifying the general objectives and strategic plans of call center, directly supervise planning and organizing the communication-associated works at the center, assign tasks to the personnel, follow implementation of different works, in line with the operational plans and executive programs, and ensure the availability of all technical and human resources that ensure effectiveness of workflow as much as possible.

### Main tasks:

- Participate in the development and preparation of the general plans and objectives of the call center in line with the strategic visions and priorities, and ensure the existence of accurate frameworks and metrics by which the level of achieving these strategic plans and objectives is determined.
- Develop the detailed plans, programs and projects of the call center, follow the implementation thereof for ensuring the best outputs as well as the highest levels of efficiency, quality and productivity, and ensure compliance with all the approved regulations, rules and policies, in such regard.
- Coordinate with all concerned bodies; with a view to installing and maintaining equipment and devices of call center, and ensure overcoming all associated challenges.
- Supervise the flow of processes, procedures and services being provided at the call center, revise and follow raised suggestions and complaints, study the same, take the measures and action required for solving, and ensure non-occurrence of them in the future.
- Ensure the availability of qualified and trained cadres within various processes and activities of call center, ensure providing them with the continuous support and guidance, and enable them from employing the recent practices and methods for improving the level of activities and works therewith associated.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation
- Management and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making

- Problem Solving

### Technical competencies:

- Telecommunication technology (sales)
- Telecom Cost Management
- Internet protocol (IP) telephony technology
- GSM system
- Communications protocol (surveillance)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,PRMG4,PRMG5,GOVN5,PBMG3,PBMG4,PBMG5,RESC4,RESC5,PEMT4,PEMT5

### SFIA Desirable Skills

## Database Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133011	Database Manager

**Summary of the occupation:** Take part in planning, directing and coordinating rules for the utilization of database, and ensure the safety of database through the security measures.

### Main tasks:

- Supervise developing standards and guidelines of database utilization, access and supervision over the execution thereof.
- Plan, coordinate and implement the security measures for protecting information, ensure defending the database against any unauthorized access, damage, amendment or disclosure.
- Design and implement the services of configuration, replication, back-up & recovery for all databases, servers and applications.
- Supervise audits of services; to ensure the compliance with policies, besides the amendment of databases and management systems accordingly.
- Develop and implement plans and procedures of risk addressing and data restoring.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Leadership
- People Management
- Strategic Thinking
- Decision Making
- Problem Solving

### Technical competencies:

- Database design (logical)
- Database design (physical)
- Database development
- Database programming
- Open Database Connectivity (programming)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,DATM2,DATM3,DATM4,DATM5,AVMT4,AVMT5,CORE3,CORE4,CORE5,DBDS3,DBDS4

### SFIA Desirable Skills

## Cybersecurity Manager

Major group	1	Managers
Sub-major group	13	Production and specialised services managers
Minor group	133	Information and communications technology service managers
Unit group	1330	Information and communications technology service managers
Occupation	133012	Cybersecurity Manager

**Summary of the occupation:** Manage cybersecurity systematically; with a view to protecting the informational and technical assets, in accordance with the organizational policies and procedures, and the legislative requirements.

### Main tasks:

- Develop and maintain information security's policies, standards and guidelines.
- Supervise and control the routine security management.
- Develop and update the protocols of business continuity and disaster recovery.
- Manage the security events and incidents; for protecting IT assets, including the intellectual property rights.
- Develop, implement and control the strategic programs of information security; to ensure the integrity, confidentiality and availability of information, besides maintaining the proprietorship.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Software and applications development and analysis
- Management and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking

### Technical competencies:

- Identify the operational consequences of cybersecurity's gaps.
- Know the systems security's KPIs and availability.
- Know the new and arising techniques of cybersecurity and information technology.
- Know how the security system works (including the capabilities of durability and dependency) and how changes in circumstances, processes or environment affect the results.
- Able to integrate cybersecurity requirements with acquisitions, use the applicable main security controls as source of security requirements, and ensure the powerful control of software quality, and the availability thereof from multiple sources.

### SFIA Generic Levels of Responsibility

- AUTO6,INFL6,COMP6,KLGE6,BSKL6



### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,SCTY6,PGMG6,COPL4

### SFIA Desirable Skills

## IT Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	214	Engineering professionals (excluding electrotechnology)
Unit group	2149	Engineering professionals not elsewhere classified
Occupation	214910	IT Engineer

**Summary of the occupation:** Study the customer needs, including computers and software; develop, check and install the computer hardware and software; diagnose and address any faults in the hardware and software; and prepare, present and discuss the specialized documents and reports related to such studies and analyses.

### Main tasks:

- follow up and evaluate the process of inputs collecting and analyzing; and develop means and methods for analyzing and designing, depending on the evaluation process.
- Seek the latest appropriate means and tools of programming, examination and installment; monitor the cycle of software development; and develop, check and install computer hardware and software.
- Diagnose and address any faults in the computer hardware and software; develop the preventive maintenance programs; and follow up their implementation.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Information technology
- Computer technology (engineering)
- Software engineering
- Security analysis (data security)
- Operating system

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN4,REQM2,REQM3,REQM4,ITOP1,ITOP2,ITOP3,ITOP4

### SFIA Desirable Skills

- HSIN5,ITMG5,REQM5,EMRG4,PBMG3,PBMG4

## IT System Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	214	Engineering professionals (excluding electrotechnology)
Unit group	2149	Engineering professionals not elsewhere classified
Occupation	214911	IT System Engineer

**Summary of the occupation:** follow up and evaluate the process of collecting of inputs and requirements of IT systems; follow up the procedures of IT systems designing, planning and management; follow up and evaluate the procedures of system executing and checking; and prepare, present and discuss the specialized documents and reports related to such studies and analyses.

### Main tasks:

- Conduct the researches and studies required for developing the work environment; analyzing the results; assess the available solutions; and define the best alternatives.
- Define and plan the system components; prepare the time schedule for building, checking, installing and maintaining the system; define the necessary elements for the operation of the system; and prepare the design documents.
- follow up the processes of building and installing the system; and monitor the examinations during the installment; and evaluate the system performance.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Systems design
- CASE tools (Computer Aided Software Engineering)
- Object-oriented programming
- BASIC (programming language)
- Computing and network solutions

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- DESN4,ARCH4,HSIN5,PROG2,PROG3

### SFIA Desirable Skills

- EMRG4,PROG4

## Network Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	214	Engineering professionals (excluding electrotechnology)
Unit group	2149	Engineering professionals not elsewhere classified
Occupation	214912	Network Engineer

**Summary of the occupation:** Prepare the outlines and descriptions of computer networks and telecommunication networks lines; prepare execution plans for networks installment; prepare the procedures of delivery and receipt checks; and prepare, present and discuss the specialized documents and reports related to such studies and analyses.

### Main tasks:

- Study the work requirements; plan the detailed charts of computer network and telecommunication networks lines; define the descriptions; and identify paths, courses, lines and intersection points of information connection.
- Prepare the plans and documents of executing and installing computer networks and telecommunication networks lines; follow up the execution procedures; and conduct the delivery checks.
- Prepare the preventive maintenance programs for computer and communication networks; and follow up their execution procedures.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Network Architecture
- Network operation system
- Network bridging (installation and maintenance)
- DXC (telecommunications networks)
- Integrated services digital network (network administration)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL5

### SFIA Required Skills

- NTDS5,HSIN4,HSIN5,NTAS4,NTAS5

### SFIA Desirable Skills

- DESN4

## Network Engineering Technology Specialist

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	214	Engineering professionals (excluding electrotechnology)
Unit group	2149	Engineering professionals not elsewhere classified
Occupation	214913	Network Engineering Technology Specialist

**Summary of the occupation:** Install the computer and communication networks; and supervise the production, installment and maintenance activities.

### Main tasks:

- Install the computer and communication networks and operating systems; and follow the standards of performance and quality.
- Manage the execution of computer and communication networks' plans and projects; and prepare the time schedules and cost estimates.
- Diagnose any faults in the computer and communication networks; follow up the maintenance and reparations; and carry out the necessary checks to ensure performance accuracy.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Network Architecture
- Network operation system
- Network bridging (installation and maintenance)
- DXC (telecommunications networks)
- Integrated services digital network (network administration)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,HSIN5,NTAS2,NTAS3,NTAS4

### SFIA Desirable Skills

- EMRG4,PBMG3,PBMG4,ITOP1,ITOP2,ITOP3,ITOP4

## Software Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	214	Engineering professionals (excluding electrotechnology)
Unit group	2149	Engineering professionals not elsewhere classified
Occupation	214914	Software Engineer

**Summary of the occupation:** Prepare the plans and documents describing the system tasks to be automated; conduct the interviews; identify the requirements and needs; prepare the standardized plans; study and design the database outline; transfer the plans into the appropriate software; and prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports.

### Main tasks:

- Prepare the plans and documents describing the system tasks to be automated; conduct the interviews; identify the requirements and needs; prepare the standardized plans; study and design the database outline.
- Transfer the documents and plans into the appropriate software; and prepare the appropriate environment accommodating such software, through linking the servers to the requested services.
- Follow up the software operation; work on addressing the relevant issues; and execute the amendments and developments, when needed.
- Conduct interviews with the internal or external customers, for obtaining information upon which, the software will be built.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software design
- Applications programming
- Software development

- Client/server (programming)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- PORT3,PORT4,DBDS3,DBDS4,SWDN2,SWDN3,SWDN4,PROG2,PROG3,PROG4,ASUP2,ASUP3,ASUP4

### SFIA Desirable Skills

- BUAN3,BUAN4,CIPM5

## Electronics Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215201	Electronics Engineer

**Summary of the occupation:** Prepare the plans and programs of electronic devices installment; diagnose and address any faults in the electronic devices; prepare the preventive maintenance programs of electronic devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Prepare the plans of electronic devices installment; follow up the procedures of installment; carry out trial operation and control; and train the users on operation.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks after reparation to ensure performance accuracy.
- Prepare preventive maintenance programs for the electronic devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Electronics design
- Electronics development
- Process technology (engineering)
- Electrical, telephone and electronic products
- Medical electronics

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,HSIN5

### SFIA Desirable Skills

- RFEN2,RFEN3,RFEN4,RFEN5

## Electronics Tech Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215202	Electronics Tech Engineer

**Summary of the occupation:** Execute the plans and programs of electronic devices installment; diagnose and address any faults in the electronic devices; execute the preventive maintenance programs of electronic devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Execute the plans of electronic devices installment; follow up the procedures of installment; carry out trial operation and control; and train the users on operation.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Execute the preventive maintenance programs for the electronic devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Process technology (engineering)
- Electrical, telephone and electronic products
- Medical electronics
- Electronics production
- Electronics

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

- RFEN2,RFEN3,RFEN4

## Electronic Engineering Tech Specialist

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215203	Electronic Engineering Tech Specialist

**Summary of the occupation:** Execute the plans and programs of electronic devices installment; diagnose and address any faults in the electronic devices; execute the preventive maintenance programs of electronic devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Execute the plans of electronic devices installment; follow up the procedures of installment; carry out trial operation and control; and train the users on operation.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Execute the preventive maintenance programs for the electronic devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Process technology (engineering)
- Electrical, telephone and electronic products
- Medical electronics
- Electronics production
- Electronics

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

- RFEN2,RFEN3,RFEN4

## Computer Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215204	Computer Engineer

**Summary of the occupation:** Study and design the computer systems and devices; and supervise the production, installation and maintenance activities.

### Main tasks:

- Design the computers and operating systems; and identify the standards of performance and quality.
- Manage the installment of computer systems and devices; and prepare the time schedules and cost estimates.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Computers (installation and maintenance)
- Computers and peripherals
- Computing and network solutions
- Performance and security testing
- Printers (installation and maintenance)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,HSIN5,DESN4,DESN5,HWDE4,HWDE5

### SFIA Desirable Skills

## Computer Technical Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215205	Computer Technical Engineer

**Summary of the occupation:** Install the computer systems and devices; and supervise the production, installation and maintenance activities.

### Main tasks:

- Install the computers and operating systems; and follow the standards of performance and quality.
- Manage the systems and devices production and assembling; and prepare the time schedules and cost estimates.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Computers (installation and maintenance)
- Computers and peripherals
- Computing and network solutions
- Performance and security testing
- Printers (installation and maintenance)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

## IT Technology Engineering Specialist

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215206	IT Technology Engineering Specialist

**Summary of the occupation:** Install the computer systems and devices; and supervise the production, installation and maintenance activities.

### Main tasks:

- Install the computers and operating systems; and follow the standards of performance and quality.
- Manage the systems and devices production and assembling; and prepare the time schedules and cost estimates.
- Diagnose any faults in electronic devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Computers (installation and maintenance)
- Computers and peripherals
- Computing and network solutions
- Performance and security testing
- Printers (installation and maintenance)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

## Device Electronic Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215207	Device Electronic Engineer

**Summary of the occupation:** Execute the plans and programs of electronic devices maintenance and operation; diagnose and address any faults in the electronic devices; execute the preventive maintenance programs of electronic devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Execute the plans of electronic devices maintenance; follow up the procedures of maintenance; and carry out the trial operation and control after maintenance.
- Diagnose any faults in electronic devices; determine the parts that need to be replaced, repaired or inspected, to ensure performance accuracy.
- Execute the preventive maintenance programs for the electronic devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Process technology (engineering)
- Electrical, telephone and electronic products
- Medical electronics
- Electronics production
- Electronics

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

- RFEN2,RFEN3,RFEN4

## Medical Devices Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215208	Medical Devices Engineer

**Summary of the occupation:** prepare the plans and programs of medical devices maintenance and operation; diagnose and address any faults; prepare the preventive maintenance programs of medical devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Prepare the plans and programs of medical devices installment, such as radiographic and wave imaging devices as well as diagnosis and processing devices; and train users on how to operate them.
- Diagnose any faults in medical devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Prepare preventive maintenance programs for the medical devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Supervision of medicinal products
- Medico-technical engineering
- Medical device engineering
- Maintenance (medical-technical equipment)
- Medico-technical service

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,RFEN2,RFEN3,RFEN4

### SFIA Desirable Skills

## Medical Devices Technical Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215209	Medical Devices Technical Engineer

**Summary of the occupation:** Execute the plans and programs of medical devices maintenance and operation; diagnose and address any faults in the medical devices; execute the preventive maintenance programs of medical devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Execute the plans and programs of medical devices installment, such as radiographic and wave imaging devices as well as diagnosis and processing devices; and train users on how to operate them.
- Diagnose any faults in medical devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Execute the preventive maintenance programs for the medical devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Medical device engineering
- Medico-technical engineering
- Bioengineering
- Maintenance (medical-technical equipment)
- Artificial limb manufacture (orthopaedic engineering)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,RFEN2,RFEN3,RFEN4

### SFIA Desirable Skills

## Medical Devices Engineering Technology Specialist

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2152	Electronics engineers
Occupation	215210	Medical Devices Engineering Technology Specialist

**Summary of the occupation:** Execute the medical devices installment and operation plans and programs; diagnose and address any faults in the medical devices; Execute the preventive maintenance programs for medical devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Execute the plans and programs of medical devices installment, such as radiographic and wave imaging devices as well as diagnosis and processing devices; and train users on how to operate them.
- Diagnose any faults in medical devices; follow up the procedures of reparation and maintenance; and conduct the necessary checks to ensure performance accuracy.
- Execute the preventive maintenance programs for the medical devices according to the manufacturer's instructions; and follow up their execution.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, participate in presenting and clarifying, and maintain on the corresponding database, the specialized documents and reports, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Medical device engineering
- Medico-technical engineering
- Bioengineering
- Maintenance (medical-technical equipment)
- Artificial limb manufacture (orthopaedic engineering)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,RFEN2,RFEN3,RFEN4

### SFIA Desirable Skills

## Communications Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2153	Telecommunications engineers
Occupation	215301	Communications Engineer

**Summary of the occupation:** Prepare the plans of installing and operating the main and sub telecommunications switching; follow up the execution procedures; chart the telecommunication networks; follow up the execution procedures; prepare the preventive maintenance programs; follow up their execution; prepare, present and discuss the specialized documents and reports related to the results of such studies and analyses.

### Main tasks:

- Prepare the plans of installing the main and sub telecommunications switching; follow up the installment procedures; carry out the initial operation; and prepare the operation programs.
- Chart the telecommunication networks; and follow up the execution and operation procedures.
- Prepare and develop the preventive maintenance programs of telecommunication networks and equipment, as per the manufacturer recommendations; follow up their execution; diagnose any faults in switching and networks; and follow up the process of rectifying such faults.
- Develop the work methods and procedures; and keep up with the technical developments.
- Prepare, present, clarify, and keep on the relevant database, the specialized documents and reports related to engineering projects and works, as well as their progress ratio, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Telecommunications
- Telecommunications technology
- Communication Protocol
- Internet protocol (IP) telephony technology
- Synchronous Optical Networking (SONET)



### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,HSIN5

### SFIA Desirable Skills

- RFEN2,RFEN3,RFEN4,RFEN5

## Radio Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2153	Telecommunications engineers
Occupation	215302	Radio Engineer

**Summary of the occupation:** Study and design the equipment and systems used in the radio; and supervise the activities of production, installment, development and maintenance.

### Main tasks:

- develop new theories and enhance the current methods in this field.
- Design the equipment and systems; and define the performance and quality standards.
- Manage the installment of equipment and systems; and prepare the time schedules and cost estimates.
- Execute the work of equipment repairation and maintenance.
- Develop the policies and procedures ensuring compliance with the HSE regulations; and supervise their execution.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Telecommunications technology
- Radio frequency transmission (RF)
- Radio design
- Radio technology

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,HSIN5,DESN4,DESN5,HWDE4,HWDE5,RFEN2,RFEN3,RFEN4,RFEN5

### SFIA Desirable Skills

- SFEN3,SFEN4



## Broadcast Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2153	Telecommunications engineers
Occupation	215303	Broadcast Engineer

**Summary of the occupation:** Ensure the readiness of broadcasting devices; conduct the daily and periodical preventive and routine maintenance to maintain the continuity of operation of such devices; and ensure that automation system works properly.

### Main tasks:

- follow up the server log to detect any defects in its performance; and intervene in repairing any defects occurring during operation; and follow up the maintenance with the concerned parties.
- Maintain the broadcast equipment; carry out the basic maintenance; properly update and develop the broadcast systems.
- Install, maintain, transport, store and repair the radio and TV programs broadcasting equipment.
- Control the strength, clarity and reliability of incoming and outgoing signal; and control the equipment, as needed, for maintaining the quality.
- Prepare the backups of emergency plans required for restoring the information, in addition to the periodical plans of preventive maintenance.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Telecommunications transmission
- Audiovisual engineering
- Server operating system
- Communication Protocol
- Live broadcasting

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,RFEN2,RFEN3,RFEN4,ITOP1,ITOP2,ITOP3,ITOP4

### SFIA Desirable Skills

## Radar Engineer

Major group	2	Professionals
Sub-major group	21	Science and engineering professionals
Minor group	215	Electrotechnology engineers
Unit group	2153	Telecommunications engineers
Occupation	215304	Radar Engineer

**Summary of the occupation:** Prepare the plans and programs of radar devices installment; diagnose and address any faults in the radar devices; prepare the preventive maintenance programs of radar devices; and prepare the specialized documents and reports related to work outcomes.

### Main tasks:

- Study the operation manuals of radar equipment, such as the devices of electronic control and guidance.
- Recognize the distance, height, direction and speed of movable and immovable objects, such as aircrafts, ships, vehicles, weather condition and terrain shape.
- Diagnose the technical faults; supervise the reparation procedures; and develop the work methods using modern technologies.
- follow up the development of quality regulations and standards.
- Prepare the preventive maintenance programs; follow up the execution procedures; prepare, present, clarify, and keep on their relevant database, the specialized reports and the progress ratios, as per the adopted policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Automatic Radar Plotting Aid (ARPA)
- Microwave design
- Radio technology
- High frequency technology
- Reporting

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,HSIN4,RFEN2,RFEN3,RFEN4

### SFIA Desirable Skills

- QUAS3,QUAS4

## IT Software and Applications Trainer

Major group	2	Professionals
Sub-major group	23	Teaching professionals
Minor group	235	Other teaching professionals
Unit group	2356	Information technology trainers
Occupation	235601	IT Software and Applications Trainer

**Summary of the occupation:** Teach curricula, conduct training courses in IT software and applications; and organize extracurricular or supportive activities.

### Main tasks:

- Develop lesson plans as per the training and educational objectives, select sources, design educational materials, lessons, contents and other teaching methods.
- Teach subjects of IT software and applications; present individual and group lessons and courses; take on assignments and organize the practical activities.
- Disseminate clear learning objectives, prepare and manage tests and assignments and give grade marks to assess students' progress.
- Advise students for improving their efficiencies, identify students who require more attention and devise ways to meet their needs.
- Assist teachers in the existing education systems, whereas IT software and applications lessons are provided.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Teacher training with subject specialisation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Pedagogy
- Database design (teaching)
- Information analysis (teaching)
- Computer programming (teaching)
- Computer science

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- ETDL3,ETDL4,LEDA3,LEDA4

### SFIA Desirable Skills

- PROG2,DTAN2

## IT Trainer

Major group	2	Professionals
Sub-major group	23	Teaching professionals
Minor group	235	Other teaching professionals
Unit group	2356	Information technology trainers
Occupation	235602	IT Trainer

**Summary of the occupation:** Teach curricula, conduct training courses in IT; and organize extracurricular or supportive activities.

### Main tasks:

- Develop lesson plans as per the training and educational objectives, select sources, design educational materials, lessons, contents and other teaching methods.
- Teach subjects of IT; present individual and group lessons and courses; take on assignments and organize the practical activities.
- Disseminate clear learning objectives, prepare and manage tests and assignments and give grade marks to assess students' progress.
- Advise students for improving their efficiencies, identify students who require more attention and devise ways to meet their needs.
- Assist teachers in the existing education systems, whereas IT lessons are provided.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Teacher training with subject specialisation
- Computer use
- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Pedagogy
- Computer science (teaching)
- Teaching specialty subjects
- Special teaching methods
- Computer based learning tools

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- ETDL3,ETDL4,LEDA3,LEDA4

### SFIA Desirable Skills

## Cybersecurity Curriculum Developer

Major group	2	Professionals
Sub-major group	23	Teaching professionals
Minor group	235	Other teaching professionals
Unit group	2356	Information technology trainers
Occupation	235603	Cybersecurity Curriculum Developer

**Summary of the occupation:** Develop, plan, coordinate, and evaluate cybersecurity education and training programs, curricula, contents, and teaching methods, according to the educational needs.

### Main tasks:

- Plan cybersecurity educational strategies such as lectures, statements, interactive practices, multimedia presentations, video courses, and webinars for a more effective learning environment, in collaboration with teachers and trainers.
- Formulate cybersecurity instructional curriculums to provide detailed guidance to the relevant cadre sector.
- Conduct learning needs assessments, and define the requirements in the field of cybersecurity.
- Design the training curriculum and course content, as per the cybersecurity training requirements.
- Periodically review the course content to verify its accuracy, completeness, and update.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Teacher training with subject specialisation
- Database and network design and administration
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Have knowledge and experience of cybersecurity sciences.
- Know the multiple cognitive fields, tools and methods applying to learning in every area, in particular the cybersecurity.
- Know the services of training and e-learning.
- Know the models of educational design and evaluation.
- Know the policies, processes and procedures of training and learning at the entity.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- TMCR3, TMCR4, TMCR5

### SFIA Desirable Skills

- SCTY3, SCTY4

## Cybersecurity Trainer

Major group	2	Professionals
Sub-major group	23	Teaching professionals
Minor group	235	Other teaching professionals
Unit group	2356	Information technology trainers
Occupation	235604	Cybersecurity Trainer

Summary of the occupation: Educate, train, develop, and test the individuals in cybersecurity topics.

### Main tasks:

- Give cybersecurity training courses specially designed for the recipients based on physical and virtual environments.
- Provide technical and non-technical recipients with cybersecurity technical information.
- Conduct interactive exercises in cybersecurity topics to create an effective learning environment.
- Plan and coordinate the presentation of methods and patterns used in the classroom (e.g., lectures, statements, interactive practices, and multimedia presentations) to create a more effective learning environment.
- Develop or help to develop course evaluations.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Teacher training with subject specialisation
- Database and network design and administration
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Have knowledge and experience of cybersecurity sciences.
- Able to prepare and present summaries of education, to assure that users of systems, networks and data are aware of system security's policies and procedures, and abide thereby.
- Know the levels and methods of learning.
- Know the processes of testing and evaluation for learners.
- Able to design technical and planning information, to be in line with the level of customer understanding.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- ETDL3,ETDL4,LEDA3,LEDA4

### SFIA Desirable Skills

- SCTY3,SCTY4

## Information Technology and Telecommunication Devices Sales Specialist

Major group	2	Professionals
Sub-major group	24	Business and administration professionals
Minor group	243	Sales, marketing and public relations professionals
Unit group	2434	Information and communications technology sales professionals
Occupation	243401	Information Technology and Telecommunication Devices Sales Specialist

**Summary of the occupation:** Develop the sales policies; follow up the implementation; evaluate the results; and prepare, present and keep the specialized documents and reports related to the information technology and telecommunication devices sales.

### Main tasks:

- Study and follow up the market developments; identify and develop the marketing objectives and sales methods; estimate the expected sales volume; and translate targets into sales plans
- Propose sales policies; follow up the implementation of the policies and sales methods; and develop and evaluate the promotional programs
- Communicate with customers; identify their problems; and follow up on competitors and sales programs to avoid future risks
- Evaluate the results of the sales representatives; assess the achievement of the sales objectives; and propose corrective plans and procedures
- Prepare the specialized documents and reports related to the sales; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Marketing and advertising

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Sales Strategy
- Computer technology (sales)
- Market analysis
- Competitor monitoring
- Product desirability



### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SALE4,SALE5

### SFIA Desirable Skills

## Computer Science Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251101	Computer Science Specialist

**Summary of the occupation:** Conduct studies and researches on computer science; develop the concepts, theories and operational methodologies; and participate in the practical application of research results.

### Main tasks:

- Conduct researches on computer science; build on and develop the concepts, theories and operational methodologies.
- Design and carry out the experiments in computer science; and test the hypotheses in the laboratory.
- Interpret the data and results using mathematical models and techniques.
- Prepare the scientific papers and reports; publish the researches in the academic periodicals; and present the results at the professional conferences.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Research
- Computer science
- Computer Programming Languages
- Data analysis
- Reporting

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- RSCH2,RSCH3,RSCH4,INAN3,INAN4,VISL4

### SFIA Desirable Skills

## Information Systems Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251102	Information Systems Analyst

**Summary of the occupation:** Collect all customer requirements and needs; conduct the interviews; organize the surveys; analyze the business processes, procedures, workplace practices, and customer needs; and prepare data models, functional flow charts and other documents.

### Main tasks:

- Collect all customer requirements and needs; conduct the interviews; and organize the surveys.
- Analyze the business processes, procedures, and practices applicable in the workplace as well as customer needs; translate them into functions and requirements on the system; and formulate the design documents and flowcharts.
- Prepare data models, functional flowcharts and other documents; and prepare and present the required elements of the project.
- Perform the tests; analyze the performance appraisal; and ensure that the programs, applications, and scripts comply with the specified standards.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Systems analysis
- Computer Security Systems administration
- Systems investigation
- Business analysis
- Systems administration

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- BUAN3,BUAN4,BSMO2,BSMO3,BSMO4,DTAN2,DTAN3,DTAN4

### SFIA Desirable Skills

## System Designer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251103	System Designer

**Summary of the occupation:** Design and supervise the development and implementation of cyber-security systems and networks.

### Main tasks:

- Issue and integrate cyber-security designs for systems and networks with multi-level security requirements or the requirements for addressing multiple classification levels of data that initially apply to the entity (for example: Non-confidential, confidential, highly confidential).
- Identify and document the way of implementing a new system or interfaces between systems, affecting the security situation of the current environment.
- Analyse the proposed structures; allocate the security services; and select the security mechanisms.
- Assess the security structures and designs to determine the adequacy of the security design or structures proposed or submitted in response to the requirements contained in the acquisition documents.
- Develop the components of structure or system at the entity level, as necessary, to meet the user needs.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Systems design
- Computer Security Systems administration
- Systems administration
- Systems integration
- Systems development

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,DESN4,DESN5,NTDS5

### SFIA Desirable Skills

- SINT2,SINT3,SINT4,SINT5

## Cyber-security Systems Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251104	Cyber-security Systems Developer

**Summary of the occupation:** Design, develop, test and evaluate the security of cyber information systems throughout the life cycle of systems development.

### Main tasks:

- Apply the security policies to overlapping applications, such as B2B transactions
- Develop cyber-security designs to meet specific operational needs and environmental factors (e.g.: Access control, automated applications, network operations, safety and abundance requirements, multi-level security, multi-level classification processing, sensitive segmented information processing).
- Issue the disaster recovery plans, process continuity for systems under development; and ensure testing before introducing the system into the production environment.
- Assess the effectiveness of cyber-security procedures used by the systems.
- Design, implement, test and evaluate the secure interfaces between information systems, physical systems and/or integrated technologies.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Analytical Thinking

### Technical competencies:

- Know the structure of information security.
- Know the principles of information security.systems engineering.
- Know the concepts of parallel and distributed computing.
- Pinpoint security controls based on the principles of cybersecurity.
- Apply the principles of cybersecurity and privacy, to fulfill the organizational requirements (associated with the confidentiality and safety of information, availability, authentication and non-denial).

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- SCTY3,SCTY4,DESN4,PROG2,PROG3,PROG4,COPL4

### SFIA Desirable Skills

## Systems Security Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251105	Systems Security Analyst

**Summary of the occupation:** Development the systems security testing and maintenance. Analyze the security of processes and integrated systems; apply the principles of cyber-security architecture targeting the services to meet the requirements of encryption, management of authority, confidentiality, safety and availability.

### Main tasks:

- Conduct cyber-security testing for the exported applications and/or systems to ensure that they include cyber-security functions such as encryption, access control and identity management.
- apply the principles of cyber-security architecture targeting the services to meet the requirements of encryption, management of authority, confidentiality, safety and availability.
- Apply cyber-security policies and controls to overlapping applications, such as business-to-business transactions.
- Integrate the automated capabilities to update or repair the system software with respect to cyber-security, wherever applicable; and issue the processes and procedures for manually updating and repairing the system software, based on the schedule requirements for current and projected update and fixes packages for the system's operational environment.
- Ensure the implementation of security updates and fixes for commercial products embedded in the system design in accordance with the timeframes provided by the relevant management in the respective operating environment, ensuring cyber protection to all its core functions.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know tools of designing systems and methods of cybersecurity.
- Know the concepts and protocols of computer networks and methodologies of network security.
- Know the principles and methods of IT security (such as: firewalls, neutral networks and encryption).

- Know processes of system engineering.
- Know software engineering.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SCTY3,SCTY4,DESN4

### SFIA Desirable Skills

## Cyber-security Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251106	Cyber-security Specialist

**Summary of the occupation:** Assist in the tasks of cyber-security protection and defense; and provide general support for cyber-security.

### Main tasks:

- Implement the cyber-security policies and controls to achieve the security objectives of the system.
- Ensure the detection of any unfamiliar activity or potential threat to the network resources by determining and analyzing the traffic on the network.
- Coordinate with cyber defense staff at the entity level to verify the network alerts.
- Develop and direct the cyber-security testing; and conduct the authentication procedures.
- Assess and monitor cyber-security, in relation to systems application and testing practices.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know how to use tools of network analysis, to identify gaps.
- Know the principles of cybersecurity and privacy, besides the institutional requirements (regarding the confidentiality, integration, availability, documentation and non-denial).
- Know the principles of cybersecurity and privacy.
- Know the concepts and protocols of computer networks and methodologies of network security.
- Know the basics of networks and Internet connections (i.e. devices, configurations, software, applications, ports/protocols, network structure and infrastructure, routing, operation systems... etc.).

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- CORE3,CORE4,SCTY3,SCTY4

### SFIA Desirable Skills

## Gap Assessment Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251107	Gap Assessment Specialist

**Summary of the occupation:** Assess the system and network gaps; determine the location of these system and network deviations from the acceptable settings or policies; and measure the effectiveness of a multi-stage security defense structure against the determined gaps.

### Main tasks:

- Conduct the assessments; and identify the gaps in systems, software and networks of the entity.
- Appropriately conduct the required cyber-security audits within the environment (e.g.: technical monitoring, audits of countermeasures).
- Perform the technical (assessment of technologies) and non-technical risk and gap assessments (assessment of people and processes) for the relevant technical focus areas (e.g.: local computing environment, network and infrastructure, closed-network boundaries, supporting infrastructure and applications).
- Produce recommendations regarding the identification of the most cost-effective security controls to reduce risks (such as the protection of information, systems and processes).
- Maintain the usable cyber defense audit toolkit (e.g: the specialized cyber defense software and hardware) to support cyber defense audit tasks.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know cyber threats and gaps.
- Know threats and gaps of accurate applications and systems security (such as: overpassing the capacity of temporary storage, mobile code...etc).
- Know the tools of systems diagnosis and troubleshooting methods.
- Know what constitutes network attack, and the relationship between network attack, and threats and gaps.
- Know threat environment at the entity.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,PENT4,PENT5

### SFIA Desirable Skills

## Business Solutions Designer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251108	Business Solutions Designer

**Summary of the occupation:** Identify the sources of information and data necessary for the preparation of scientific analyses and tests; choose the best ways, tools and methods to collect, organize and analyze these information and data; and prepare, present and maintain the specialized documents and reports related to business solutions.

### Main tasks:

- Study and analyze the set plans and elaborate it into a structured operations; organize the activities and information flow path; and ensure that they are targeting the desired service or product.
- Study and analyze the theories, methodologies, information technologies, experiments and practices related to business solutions; and produce recommendations and proposals to adopt the best appropriate modern methods and practices.
- Analyze the predetermined work to identify the best appropriate work strategies in a specific field; and develop the appropriate solutions to the planning problems that may be encountered during the performance of the work, while ensuring the availability of all analyses and rationale supporting the results.
- Prepare the specialized documents and reports related to business solutions; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Business analysis
- Business application suite
- Business systems
- Data modelling



### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ARCH4,ARCH5,DLMG5

### SFIA Desirable Skills

- ARCH6,DLMG6

## Cloud Computing Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251109	Cloud Computing Specialist

**Summary of the occupation:** Securely design, implement and operate the cloud computing systems; and develop the cloud protection policies.

### Main tasks:

- Provide secure cloud solutions for the development teams; and actively participate in cloud migration and cloud application development.
- Work in multidisciplinary teams as an expert in cloud security architecture controls and methodologies.
- Develop and implement a secure cloud strategy, taking into account the structure of the entity. Serve as an expert in the cloud security architecture, including network operations, storage, databases, logistics and management.
- Develop and enforce secure patterns to consume the cloud services in order to be used by technology teams.
- Develop the solutions of identifying the current institutional data in cloud environments and applicable security controls to properly monitor and protect such data and information.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Security analysis (data security)
- Internetwork Packet Exchange/Sequenced Packet Exchange (communications protocol)
- Data warehouse
- Encryption (data security)
- Database design (logical)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,DLMG5,TECH4,TECH5

### SFIA Desirable Skills

## Secure Cloud Computing Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251110	Secure Cloud Computing Specialist

**Summary of the occupation:** Securely design, implement and operate the cloud computing systems, and develop the cloud protection policies

### Main tasks:

- Provide secure cloud solutions for the development teams, and actively participate in cloud migration and cloud application development.
- Work in multidisciplinary teams as an expert in cloud security architecture controls and methodologies.
- Develop and implement a secure cloud strategy, taking into account the structure of the entity. Serve as an expert in the cloud security architecture, including network operations, storage, databases, logistics and management.
- Develop and enforce secure patterns to consume the cloud services in order to be used by technology teams.
- Develop the solutions of identifying the current institutional data in cloud environments and applicable security controls to properly monitor and protect such data and information.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking

### Technical competencies:

- Know the method of data traffic via the network (such as: transmission control protocol, Internet protocol, open systems interconnection model information technology infrastructure library (ITIL) and the current version).
- Know the methods of secure configurations management. (like: directions of security's technical implementation, the best practices of cybersecurity).
- Know the techniques and concepts of cloud knowledge management in association with security, governance, purchases and management.
- Know cloud services methods, and how such models can limit response to incidents.
- Use the virtual machines, (Such as: Microsoft Hyper-V, VMWare vSphere, Citrix XenDesktop/server, flexible cloud computing from Amazon... etc.).

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,DLMG5,TECH4,TECH5,ARCH4

### SFIA Desirable Skills

## Breach Testing Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2511	Systems analysts
Occupation	251111	Breach Testing Specialist

**Summary of the occupation:** Carry out authorized breaches of computer systems, networks, and their locations using realistic threat methods to assess their security and detect potential vulnerabilities.

### Main tasks:

- Perform several types of cybersecurity assessments at the infrastructure or applications level, including vulnerability scanning, experimental breaches, and intrusion testing.
- Use multiple methods of testing through simulating the attacks used by social engineering hackers attempting to breach the system, use social engineering to detect security vulnerabilities (such as security practices or weak password policies).
- Prepare assessment reports after breach testing activities are completed, which include results, risk level, mitigation suggestions, and all the technical details needed to duplicate the test results.
- Collect information on networks using traditional and alternative methods (such as social network analysis, call chaining, traffic analysis), and document the findings.
- Study, document, and discuss security findings with management, leadership, and IT teams, provide advice about the methods to address or reduce system security risks.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the principles, tools and methods of penetration testing.
- Know how to use multiple tactics to simulate attacks used by social engineer to attempt hacking system.
- Know the tools of decryption, password and remote access methods.
- Know the devices of physical and logical networks, and infrastructure for integrating hubs, routers, switches, firewalls... etc.
- Know the arising problems, risks and security gaps.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- PENT4,PENT5,SCTY3,SCTY4,SCTY5

### SFIA Desirable Skills

## Software Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251201	Software Developer

**Summary of the occupation:** Design, develop, install and maintain software solutions according to customer requirements.

### Main tasks:

- Receive and understand the design plans and structure; prepare plans for writing and testing the codes; and define the time frame and stages of implementation.
- Develop the software codes using the appropriate programming language; and group them in the executive programs.
- Execute the programmed files in different controlled environments, ensuring compliance with the set standards.
- Deploy and install the software on the clients' devices; test the product; and conduct a trial run.
- Document the code creation procedures during programming; and facilitate the future updates and changes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Program design
- Software development
- Software testing
- Software engineering
- Computer Programming Languages

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- PROG2,PROG3,PROG4,PORT3,PORT4,ASUP2,ASUP3,ASUP4,HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

### Software Engineer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251202	Software Engineer

**Summary of the occupation:** Perform and develop the software development life cycle (SDLC); and develop the charts for presentation in a streamlined manner; and plan the document to determine the requirements and solutions.

#### Main tasks:

- Execute and develop the SDLC.
- Write good and testable cods.
- Ensure following up the specifications; and determine the operational feasibility of software.
- Work on integrating the software components into a fully functional system.
- Conduct troubleshooting and upgrade the existing systems.

#### Educational requirements

Minimum educational level: Bachelor degree

#### Educational field(s):

- Software and applications development and analysis

#### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Servie Quality
- Ability to build relationships
- Analytical Thinking

#### Technical competencies:

- Software engineering
- Program design
- Software testing
- Software development
- Database programming

#### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

#### SFIA Required Skills

- PROG2,PROG3,PROG4,SINT2,SINT3,SINT4

#### SFIA Desirable Skills

## Software Designer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251203	Software Designer

**Summary of the occupation:** Identify the needs and requirements of the entity; select and write the software code; develop the technical documents and manuals to clarify the used application design and codes; assess and reprogram the used applications; and prepare, present and keep the specialized documents and reports related to applications programming.

### Main tasks:

- Study, analyze, identify and include the needs, requirements and objectives of the government entity in the developed application.
- Select and write the appropriate code for the application with high quality; permanently review and develop it, taking into account the expectation and objectives of the entity or ministry.
- Develop the technical documentation and manuals to illustrate the design of the application and the code used in an easy and systematic manner; and maintain them in a place where it is easy to refer to them whenever needed.
- Evaluate and re-program the existing applications, if necessary; and continuously update them and add new features.
- Prepare the specialized documents and reports related to application programming; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software design
- Software design
- Design of accounting systems
- Computer Programming Languages
- Business analysis

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- BUAN3,BUAN4,SWDN2,SWDN3,SWDN4,PROG2,PROG3,PROG4,PROG5

### SFIA Desirable Skills

## Programmer Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251204	Programmer Analyst

**Summary of the occupation:** Perform analyses and programming in the development, implementation and support of information systems and applications.

### Main tasks:

- Develop the applications and databases by assessing customer needs.
- Analyze the user information system needs.
- Develop, test and modify the computer systems and software.
- Define the project requirements; and prepare the workflow using computer and logic.
- Maintain the computer systems; and program the guidelines by writing and updating the policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software design
- Software development
- Business analysis
- Computer Programming Languages

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- BUAN3,BUAN4,PROG2,PROG3,PROG4,PROG5

### SFIA Desirable Skills

## Application Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251205	Application Developer

**Summary of the occupation:** Design, develop, install and maintain the application solutions according to customer requirements.

### Main tasks:

- Receive and understand the application design plans; prepare plans for writing and testing the codes; and define the time frame and stages of implementation.
- Develop the software codes for applications using the appropriate programming language; and group them in the executive programs.
- Deploy and install the applications on the clients' devices; test the product; and conduct a trial run.
- Document the application development procedures; facilitate the future updates and changes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Applications programming
- Web application development
- Server application platform
- Application server
- Business analysis

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- PROG2,PROG3,PROG4,PORT3,PORT4,ASUP2,ASUP3,ASUP4

SFIA Desirable Skills

## Cybersecurity Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2512	Software developers
Occupation	251206	Cybersecurity Developer

**Summary of the occupation:** Develop cybersecurity software, applications, systems and products, such as: antivirus, spyware, malware or intrusion detection, and traffic analysis software.

### Main tasks:

- Define the security controls used during the requirements phase to integrate security into the process, define key security objectives, and enhance software security while minimizing any interference with plans and timelines.
- Determine the security effects and apply methodologies in centralized and decentralized environments across the entity's computer systems in terms of software development.
- Transform security requirements into application designing elements, including documenting the elements of software vulnerable parts to produce a design for threats, and identify any special security controls.
- Apply cybersecurity functions (such as encryption, access control, and identity management) to reduce opportunities for exploitation.
- Perform secure programming and identify potential deficiencies in codes to reduce vulnerabilities.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Analytical Thinking

### Technical competencies:

- Know the principles of cybersecurity and privacy.
- Know the concepts and protocols of computer networks and methodologies of network security.
- Knowledge of system and application security threats and vulnerabilities (such as buffer overrun, mobile code, cross-site scripts, procedural / compound query language and plugins, conflicts, secret channel, replays, return-dependent attacks, malicious co
- Know the methods of secure coding.
- Know the security controls of data of personal identification.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- PROG2,PROG3,PROG4,DESN4,SCTY3,SCTY4

### SFIA Desirable Skills

## Website Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2513	Web and multimedia developers
Occupation	251301	Website Developer

**Summary of the occupation:** Analyze the client's needs from the website; study the current website and its development procedures; prepare and implement a plan for it to be developed and updated; test the website and ensure that it is free from technical problems; and prepare, present and keep the specialized documents and reports related to the website development.

### Main tasks:

- Conduct the analyses in order to understand the client's needs and requirements; and ensure the compatibility of the website with them.
- Conduct the specialized studies and analyzes on the current website; make and implement the design-related and technical observations; and work on developing such them observations in preparation for improvement.
- Prepare a plan to develop and update the website in terms of design and technology through following the latest methods and the most aesthetic designs available in a smooth and systematic manner.
- Test the website; make sure that it is free from any technical problems after development; and work to resolve the problems, if any.
- Prepare the specialized documents and reports related to website development; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Web design
- Web application development
- Web browser
- Customer services

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- UNAN3,UNAN4,PROG2,PROG3,PROG4

### SFIA Desirable Skills

- HCEV3,HCEV4

## Digital Gaming Developer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2513	Web and multimedia developers
Occupation	251302	Digital Gaming Developer

Summary of the occupation: Design, develop, install the digital gaming software according to customer requirements.

### Main tasks:

- Receive and understand the design plans and structure; prepare plans for writing and testing the codes; and define the time frame and stages of implementation.
- Develop the software codes using the appropriate programming language; and group them in the executive programs.
- Execute the programmed files in different controlled environments, ensuring compliance with the set standards.
- Deploy and install the digital gaming software on the clients' devices; test the product; and conduct a trial run.
- Document the code creation procedures during programming; and facilitate the future updates and changes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- 3D computer graphics software
- Graphical user interface system development
- Animation (multimedia)
- Graphics programs
- Customer Experience Management software

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- PROG2,PROG3,PROG4,PORT3,PORT4

### SFIA Desirable Skills

- ADEV3,ADEV4

## Applications Programmer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2514	Applications programmers
Occupation	251401	Applications Programmer

**Summary of the occupation:** Program the application solutions and updates based on the conceptual design instructions and customer requirements.

### Main tasks:

- Receive and understand the design plans and structure; prepare plans for writing and testing the codes; and define the time frame and stages of implementation.
- Develop the software codes using the appropriate programming language; and group them in the executive programs.
- Execute the programmed files in different controlled environments, ensuring compliance with the set standards.
- Deploy and install the applications on the clients' devices; test the product; and conduct a trial run.
- Document the code creation procedures during programming; and facilitate the future updates and changes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software design
- Software development
- Software testing
- Web programming

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- PROG2,PROG3,PROG4,PORT3,PORT4,ASUP2,ASUP3,ASUP4

### SFIA Desirable Skills

## Software Security Evaluator

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2519	Software and applications developers and analysts not elsewhere classified
Occupation	251901	Software Security Evaluator

**Summary of the occupation:** Evaluate the security of computer applications, software, codes and service programs, while providing applicable results.

### Main tasks:

- Apply the coding and testing controls; apply the security testing tools; and review the codes.
- Conduct an integrated quality assurance test for the function of security and resilience to attacks.
- Conduct the trial run of software and applications to ensure the generation of the desired information; and modify the security instructions and levels.
- Release the system tests; conduct the procedures of verification , programming and documentation.
- Conduct safe software tests, reviews, and evaluations to identify the potential code glitches and minimize the gaps.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Analytical Thinking

### Technical competencies:

- Integrate the tools of testing security of black box in quality assurance of software releases.
- Use the tools of codes analysis.
- Know the principles of correcting errors in software.
- Know the methods of secure coding.
- Know the methodologies, tools and practices of deploying secure software.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- TEST1,TEST2,TEST3,TEST4,SCTY3,SCTY4



SFIA Desirable Skills

## Systems Tester

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2519	Software and applications developers and analysts not elsewhere classified
Occupation	251902	Systems Tester

**Summary of the occupation:** Consider and develop the systems testing policies and procedures, ensuring their quality; and prepare the executive work plan for systems testing.

### Main tasks:

- Provide the technical consultations to develop the system testing techniques; and prepare the technical reports
- Control the quality of systems; and identify the models needed to test systems and assess their suitability through a specific sample study.
- Ensure that the pilot system conforms to the set technical specifications; and perform the procedures of periodic checks to the systems.
- Development the systems security testing and maintenance. Analyze the security of embedded processes and systems.
- Prepare the specialized documents and reports related to system testing; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Bulletin Board System (BBS)
- Client/server (programming)
- Database design (logical)
- Database development
- Mainframes (operation and surveillance)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,TEST5

### SFIA Desirable Skills

- TEST1,TEST2,TEST3,TEST4

## Software Tester

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2519	Software and applications developers and analysts not elsewhere classified
Occupation	251903	Software Tester

**Summary of the occupation:** Develop and implement the quality control tests for software products; and ensure compliance with standards and customer requirements.

### Main tasks:

- Develop, prepare and document the application and software testing plans; and set the testing parameters, environment and simulations.
- Install the software; configure the operating systems software, parameters and environment in preparation for testing.
- Implement the application designs; develop the queries, scripts and web page; and ensure data integrity and security.
- Document the results of software application tests; communicate with the development teams regarding the product defects and errors; verify the bug fixes; and perform the regression tests.
- Develop the policies, procedures and scripts for software testing; and oversee their implementation.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software design
- Software development
- Software testing
- Quality assurance
- Quality auditing

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- TEST1,TEST2,TEST3,TEST4

### SFIA Desirable Skills

- SINT2,SINT3,SINT4

## Cybersecurity Researcher

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2519	Software and applications developers and analysts not elsewhere classified
Occupation	251904	Cybersecurity Researcher

Summary of the occupation: Conduct cybersecurity scientific researches.

### Main tasks:

- Determine strategies for cyber capabilities to develop hardware and software according to the entity's important requirements.
- Design and release cybersecurity-related new tools and technologies.
- Identify functional and security features to create opportunities for developing new capabilities to exploit or reduce gaps.
- Research and evaluate available technologies and controls to meet customer requirements.
- Review, approve, prioritize and present operational requirements for the purposes of researching, developing and obtaining cyber capabilities.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Have deep knowledge and experience of cybersecurity sciences.
- Know how to benefit from the research and development centers, academic researches and relevant systems.
- Know the strategies of research and knowledge management.
- Skill of research using all available sources.
- Apply and integrate information technologies in the suggested solutions.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCTY3,SCTY4,SCTY5,EMRG4,EMRG5,RSCH2,RSCH3,RSCH4,RSCH5

### SFIA Desirable Skills

- RELM3,RELM4,RELM5

## Malware Engineering Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	251	Software and applications developers and analysts
Unit group	2519	Software and applications developers and analysts not elsewhere classified
Occupation	251905	Malware Engineering Specialist

**Summary of the occupation:** Analyze malware (by decoding them and decoding their programming), understand how they work, their impact, and goals, and provide recommendations on methods to reduce them and ways to respond to the incidents.

### Main tasks:

- Identify and develop reverse engineering tools to enhance capabilities and detect vulnerabilities.
- Provide intelligence support in terms of malware to important internal and external stakeholders, as needed.
- Identify cybersecurity threat methods and methodologies.
- Direct immediate notifications of imminent or hostile intentions or activities related to cybersecurity that affect the entity's purposes, resources or capabilities.
- Provide both internal and external parties with essential information needed to respond to threats through reviewing and analyzing cybersecurity threats.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the concepts of reverse engineering.
- Know the tools of harmful software analysis.
- Know the harmful software and discover the same using virtual machines.
- Know the procedures and tools of error correction in software.
- Know the impact of signatures implementation, as to viruses, harmful software and attacks.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5



### SFIA Required Skills

- DGFS4,DGFS5,SCTY3,SCTY4,SCTY5

### SFIA Desirable Skills

- PENT4

## Database Designer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2521	Database designers and administrators
Occupation	252101	Database Designer

**Summary of the occupation:** Determine the needs, requirements and objectives of the concerned entity; establish a data model containing the basic design elements required; adjust the database; determine the types of data to be stored; design the database; prepare, present and keep the specialized documents and reports related to the field of database designing.

### Main tasks:

- Study, analyze, identify and include the needs, requirements and objectives of the government entity; and ensure that databases are designed according to its goals and objectives.
- Create a data model that contains all the basic design elements required and recognized in the data language; and make sure to create a logical structure that enables the development of data sequentially and systematically.
- Adjust the database to ensure that the structure of which fits with the general purposes of the entity and that it is free from any undesirable qualities such as insertion, update and deletion, which may lead to the loss of data validity, especially if they are linked.
- Determine the types of data to be stored; identify their degree of independence or correlation with other data; and select the best methods, tools and means to ensure that they are collected, organized and managed as required.
- Prepare the specialized documents and reports related to database designing; provide, display, clarify and keep the appropriate recommendations and solutions on the database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Database design (logical)
- Database design (physical)
- Database development

- Database programming
- Open Database Connectivity (programming)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DATM4,DATM5,DBDS3,DBDS4,DBDS5,DTAN4,DTAN5

### SFIA Desirable Skills

- DATM6,REQM2,REQM3,DTAN2,DTAN3

## Database Management Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2521	Database designers and administrators
Occupation	252102	Database Management Specialist

**Summary of the occupation:** Build up the database according to the executive plan; and provide technical support to the beneficiary; maintain the database management system; and prepare the technical reports.

### Main tasks:

- Examine the database schemes, drawings, technical specifications and parameters.
- Define the policies and standards for database management.
- Install the database and determine the type and size of fields and tables of the database.
- Create the spreadsheets and links; check the database; and prepare the database authentication guides.
- Install and prepare the database management systems; solve the database connection problems; set a backup plan; and follow up the backup process.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Database design (logical)
- Database administration
- Database development
- Database programming
- Open Database Connectivity (database administration)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- DBDS3,DBDS4,DBAD2,DBAD3,DBAD4,DATM2,DATM3,DATM4,AVMT4

SFIA Desirable Skills

## Database Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2521	Database designers and administrators
Occupation	252103	Database Analyst

**Summary of the occupation:** Process, analyze and verify the data; ensure that they are free from errors that may affect the results.

### Main tasks:

- Determine the types of data to be stored; identify their degree of independence or correlation with other data; and select the best methods, tools and means to ensure that they are collected, organized.
- Build up, develop, and apply the algorithms and models necessary for solving the problems and obtaining the results.
- Identify the problems of the database; and make recommendations for improvement.
- Study, analyze, identify and include the needs, requirements and objectives of the entity; and supervise the designing of databases according to its objectives.
- Prepare the specialized documents and reports related to database analysis; provide, display, clarify the appropriate recommendations and solutions; and save them on a database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Database development
- Database programming
- Data warehouse
- Data processing and analysis
- Data modelling

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- DTAN2,DTAN3,DTAN4,INAN3,INAN4,DBAD2,DBAD3,DBAD4

### SFIA Desirable Skills

- DATM2,DATM3,DATM4

## Database Programmer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2521	Database designers and administrators
Occupation	252104	Database Programmer

**Summary of the occupation:** Design the software structure; illustrate the codes; design, develop and maintain the systems and databases in an easy and systematic manner.

### Main tasks:

- Maintain the programming files for all software and applications.
- Examine the systems and software; ensure the quality; prepare, present, clarify and keep the specialized documents and reports related to database programming, in accordance with the approved policies and procedures.
- Test the software in terms of functionality, technical compatibility and programming standards.
- Provide the software solutions and alternatives that utilize different technologies; develop the databases; and integrate them in accordance with the established standards and procedures.
- Supervise software audits; to assure the lack of any errors and discrepancies, and take the corrective measures prior to the market release.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Software development
- Advanced Business Application Programming (ABAP)
- Open Database Connectivity (programming)
- Database programming
- Systems integration

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- PROG2,PROG3,PROG4,QUAS3,QUAS4,DBDS3,DBDS4,RELM3,RELM4

### SFIA Desirable Skills

- SINT2,SINT3,SINT4

## Data Security Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2521	Database designers and administrators
Occupation	252105	Data Security Specialist

**Summary of the occupation:** Support data security for the corporate information systems and networks; analyze the potential security vulnerabilities; and repair and strengthen the systems and networks.

### Main tasks:

- Install, upgrade, and provide the necessary support to, the data systems, programs, networks and databases; and oversee the security measures.
- Conduct the security audits, risk assessments and reviews to the information systems; ensure data integrity; identify the risks; and develop mitigation strategies.
- Develop and implement the plans and procedures of risk addressing and data restoring; and test their effectiveness in restoring the data after crashes.
- Inform and educate the relevant end users on the basic security protocols; enhance the security awareness; and train the users.
- Examine the data from many different sources to provide insights on security; and oversee the conduct of operations and data set schemes

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Data analysis
- Data processing and analysis
- Risk Analysis
- LAN (vulnerability analysis)
- Encryption (data security)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SCTY3,SCTY4,DATM2,DATM3,DATM4

### SFIA Desirable Skills

## System Administrator

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252201	System Administrator

**Summary of the occupation:** Plan, coordinate and implement the systems usage rules; and ensure system integrity through the security measures.

### Main tasks:

- Develop and set the standards and guidelines for the use of the system, its network and databases, access to all those components; and oversee the implementation of such standards and guidelines.
- Plan, coordinate and implement the security measures for protecting information, ensure defending the system against any unauthorized access, damage, amendment or disclosure.
- Design and implement the services of configuration, replication, back-up & recovery for all systems, servers and applications.
- Supervise audits of services to ensure the compliance with policies, besides the amendment of system settings and management systems accordingly.
- Develop and implement plans and procedures of risk addressing and data restoring.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Operating system
- Operational responsibility (computing)
- PC installation and maintenance
- Network Architecture
- Systems administration

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- SCAD4,SCAD5,GOVN5,AVMT4,AVMT5,CORE3,CORE4,CORE5

### SFIA Desirable Skills

## Network Management Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252202	Network Management Specialist

**Summary of the occupation:** Develop, install and maintain the network hardware, operating systems and software; ensure the network access and security; and provide support to the users.

### Main tasks:

- Install and upgrade the network devices, operating systems and software; and provide necessary support.
- Monitor the network; diagnose and detect the problems; and manage the network usage.
- Manage the network users and provide the access rights and other related rights; create the user environment; and build up the manuals and programs on file servers.
- Follow the information security procedures and policies.
- Provide the end users with advice and expertise regarding network design, use and security; and provide technical support to the users.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Network administration
- Integrated services digital network (vulnerability analysis)
- Internet/intranet (network administration)
- Internetwork Packet Exchange/Sequenced Packet Exchange (communications protocol)
- LAN (network administration)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- NTAS2,NTAS3,NTAS4,HSIN1,HSIN2,HSIN3,HSIN4

### SFIA Desirable Skills

- TECH4

## Infrastructure Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252203	Infrastructure Analyst

**Summary of the occupation:** Analyze IT infrastructure data; use the network management tools to collect and report business and performance statistics; and automate the provision, testing and deployment of new and changed infrastructure.

### Main tasks:

- Monitor the performance of systems and services with respect to their contribution to business performance, security and sustainability.
- Analyze the design and infrastructure plans, taking into account the needs and other factors, such as security, programming languages and resources.
- Conduct troubleshooting.
- Monitor IT infrastructure (including physical or virtual hardware, software, network services, data storage).
- Prepare the specialized documents and reports related to the infrastructure; and prepare, present, clarify, and maintain the appropriate recommendations and solutions, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- System testing
- Systems integration
- Application server
- Network operation system

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- ITOP1,ITOP2,ITOP3,ITOP4

### SFIA Desirable Skills

- CPMG4

## Cyber-security Architecture Designer

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252204	Cyber-security Architecture Designer

**Summary of the occupation:** Design and supervise the development and implementation of cyber-security systems and networks.

### Main tasks:

- Issue and integrate cyber-security designs for systems and networks with multi-level security requirements or the requirements for addressing multiple classification levels of data that initially apply to the entity (for example: Non-confidential, confidential, highly confidential).
- Identify and document the way of implementing a new system or interfaces between systems, affecting the security situation of the current environment.
- Analyse the proposed structures; allocate the security services; and select the security mechanisms.
- Assess the security structures and designs to determine the adequacy of the security design or structures proposed or submitted in response to the requirements contained in the acquisition documents.
- Develop the components of structure or system at the entity level, as necessary, to meet the user needs.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking

### Technical competencies:

- Develop security solutions at multiple levels/between domains.
- Apply the principles of cybersecurity and privacy, to fulfill the organizational requirements (associated with the confidentiality and safety of information, availability, authentication and non-denial).
- Apply security models (such as: Bell-LaPadula, Biba and Clark-Wilson).
- Use infrastructure encryption for public key and capabilities of digital signature in applications (such as: mail's safe/multi-purpose extensions, secure sockets layer).
- Use devices of VPNs and encryption.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DESN4,DESN5,SCTY3,SCTY4,SCTY5,CIPM5

### SFIA Desirable Skills

- SCTY6,QUAS3,QUAS4

## Server Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252205	Server Specialist

Summary of the occupation: Identify, diagnose and resolve the problems of servers on network systems.

### Main tasks:

- Monitor the system; and check the integrity of all devices, server resources, systems and applications.
- Process the server disruption.
- ensure the protection of the network against any unauthorized access, damage, amendment or disclosure.
- Run the servers with network systems; monitor their performance; and ensure compliance with the established standards.
- Perform the tests; analyze the performance appraisal for the servers, and ensure commitment to the standards.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Application server
- Application server
- Network administration
- Computing and network solutions
- Internet/intranet (network administration)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- ITOP1,ITOP2,ITOP3,ITOP4

### SFIA Desirable Skills

- QUAS3,QUAS4,SYSP3,SYSP4

## Data Center Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252206	Data Center Specialist

**Summary of the occupation:** Develop and secure data and information centers for various activities; and enhance the efficiency of performance using ICT.

### Main tasks:

- Implement the electronic documentation and archiving systems; and maximize the use of the accumulated data.
- Monitor and support infrastructure to facilitate data exchange with government entities.
- Prepare the executive plan for e-services; and participate in the approval of the related data technology projects.
- Support the data center applications; and support the standardization of systems.
- Use the modern technologies in the development of data centers.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Relational databases (database administration)
- Data modelling
- Data communications
- Data collection
- Database administration

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- ITMG5,DCMA3,DCMA4,DCMA5,DATM5

### SFIA Desirable Skills

- DATM6,ITMG6

## Infrastructure Cyber Defense Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2522	Systems administrators
Occupation	252207	Infrastructure Cyber Defense Specialist

**Summary of the occupation:** Test, apply, maintain, and manage the entity's hardware and software infrastructure that protects it from cybersecurity threats.

### Main tasks:

- Build, install, configure and test customized cyber defense devices.
- Manage the system on customized cyber defense applications and systems (such as antivirus, auditing, and processing) or virtual private network devices, including installation, settings, maintenance, backup, and restore.
- Coordinate with cybersecurity defense analysts to manage rules and signatures updating (e.g., intrusion detection/protection systems, anti-virus software, and blacklists of contents), with regard to specialized cyber defense applications.
- Create, edit and manage network access control lists on custom cyber defense systems (such as firewalls and intrusion prevention systems).
- Identify potential conflicts when implementing cyber defense tools (such as, tools and signatures testing and improvement).

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the concepts and protocols of computer networks and methodologies of network security.
- Know how to access the host and network (such as: access control list and capabilities lists).
- Know VPN security.
- Know the techniques of web filtering in association with cybersecurity.
- Know the concepts of network security design, including topology, protocols, components and principles (like: the application of multi-staged security defense).



### SFIA Generic Levels of Responsibility

- AUTO5,INFL4,COMP4,KLGE5,BSKL4

### SFIA Required Skills

- ITOP1,ITOP2,ITOP3,ITOP4,SYSP3,SYSP4,SYSP5,SCAD1,SCAD2

### SFIA Desirable Skills

- SCTY3,SCTY4,NTDS5,SCAD3

### Network Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2523	Computer network professionals
Occupation	252301	Network Analyst

Summary of the occupation: Monitor the level of information security and network protection.

#### Main tasks:

- Manage the email service and support the user.
- Manage the Internet service and wireless network.
- Plan for the development of IT management services.

#### Educational requirements

Minimum educational level: Bachelor degree

#### Educational field(s):

- Database and network design and administration

#### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

#### Technical competencies:

- Ethernet (network administration)
- Integrated services digital network (network administration)
- Internet/intranet (network administration)
- LAN (network administration)
- Network administration

#### SFIA Generic Levels of Responsibility

- AUTO4,INFL3,COMP4,KLGE4,BSKL3

#### SFIA Required Skills

- ITOP1,ITOP2,ITOP3,NTAS2,NTAS3,NTAS4

#### SFIA Desirable Skills

## Telecommunication Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2523	Computer network professionals
Occupation	252302	Telecommunication Analyst

**Summary of the occupation:** Determine the computer networks operation procedures; develop the preventive maintenance programs for telecommunication networks and devices; and prepare and submit work reports.

### Main tasks:

- Develop the schemes of installing the wired networks that use air, ground and fiber-optic cables; determine the installation locations; follow the network installation procedures according to the developed schemes; and conduct the experimental operation of the wired networks.
- Study the installation schemes of the wireless networks; determine the installation locations; follow the installation procedures according to the developed schemes; and conduct the experimental operation of the wireless networks.
- Set standards for testing and measuring the performance of the wired and wireless networks; monitor the results; diagnose the faults using testing and measuring devices and computer technologies; and follow up on repair and adjustment.
- Implement the preventive maintenance programs for the telecommunication networks according to the manufacturer's instructions.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Telecommunications technology
- Telecommunications transmission
- Communication Protocol
- Computer telephony integration (CTI)

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- NTPL5,HSIN5,NTAS5

### SFIA Desirable Skills

## Digital Criminal Investigation Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252901	Digital Criminal Investigation Specialist

**Summary of the occupation:** Investigate the cyber-crimes; and retrieve the information from the network servers, computers and data storage devices; and assist the authorities in detecting and obtaining evidence.

### Main tasks:

- Secure and retrieve the data as an evidence by conducting searches, seizures and checks of electronic data storage media.
- Provide the investigators with advice on the nature, availability, reliability, and applicability of digital evidence.
- Support the investigations through the Internet and laboratory means to detect electronic criminal applications, including fraud, forgery, electronic theft and identity theft.
- Examine the digital evidence and preparation of data necessary for further criminal or judicial actions by submitting the reports and findings.
- Retain, index and store materials of evidence relating to criminal proceedings in accordance with the prevailing regulations and standards.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know how to collect, fill, transfer and store e-evidence, maintaining the chain of custody.
- Know the procedures of digital criminal investigation.
- Know applications of support and the configurations of designing digital criminal labs.
- Know the consequences of digital criminal investigation on devices, operation systems and network techniques.
- Know the adverse tactics, methods and procedures of digital criminal evidence.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SCTY3,SCTY4,USUP2,USUP3,USUP4,DGFS4

### SFIA Desirable Skills

- DGFS5

## Artificial intelligence Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252902	Artificial intelligence Specialist

**Summary of the occupation:** Identify the sources of information and data necessary for the preparation of scientific analyses and tests; choose the best ways, tools and methods to collect, organize and analyze these information and data; and prepare, present and maintain the specialized documents and reports related to artificial intelligence.

### Main tasks:

- Study and analyze the set plans and elaborate it into a structured operations; organize the activities and information flow path; and ensure that they are targeting the desired service or product.
- Study and analyze the theories, methodologies, information technologies, experiments and practices based on converting raw data into meaningful information for business purposes; and produce recommendations and proposals to adopt the best appropriate modern methods and practices.
- Continuously collect, record and analyze the entity-related information and data according to predefined objectives; prepare and examine the recommendations with IT departments for utilizing in the decision making process to improve the overall performance.
- Analyze the predetermined work to identify the best appropriate work strategies in a specific field; and develop the appropriate solutions to the planning problems that may be encountered during the performance of the work, while ensuring the availability of all analyses and rationale supporting the results.
- Prepare the specialized documents and reports related to artificial intelligence; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Business application suite
- Artificial intelligence (teaching)
- Robot system programming
- Business systems
- Data modelling

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- INAN3,INAN4,INAN5,DLMG5,STPL5

### SFIA Desirable Skills

- EMRG4,EMRG5,VISL4



## Cyber Incidents Response Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252903	Cyber Incidents Response Specialist

**Summary of the occupation:** Respond to the cyber-security incidents in the network environment; and conduct the appropriate investigation and analysis for the related incidents; control the malware; and produce recommendations to provide the prompt handling.

### Main tasks:

- Implement, coordinate, analyze and investigate the cyber-security incident response functions.
- Provide recommendations to provide prompt handling; link the cyber-security incident data to identify specific vulnerabilities; control the malware; and develop the reverse engineering tools to enhance capacity and vulnerability detection.
- Serve as a technical expert; communicate with law enforcement officials; and explain the details of cyber-security incidents, as needed.
- Sort the cyber-security incidents, including the determination of the scope, urgency, and potential impact; identify the gaps; and make recommendations that will provide prompt handling.
- Coordinate and provide expert technical support to cyber defense technical officials at the entity level in order to resolve any cyber defense incidents.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know methodologies to process and respond to cybersecurity accidents.
- Know the categories of accidents, response thereto and the time schedules of such responses.
- Know the phases of cyber attack (such as: reconnaissance, survey, enumeration, gain access, overriding authorities, maintaining access, network exploitation, clearing traces).
- Know attacks' various categories (such as: ineffective, direct, internal, close and distributed attacks).
- Know cyber threats and gaps.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SCTY3,SCTY4,USUP2,USUP3,USUP4

### SFIA Desirable Skills

## Cyber Defence Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252904	Cyber Defence Specialist

**Summary of the occupation:** Use and analyze the data obtained from the Cyber defence toolkit to analyze the events in their environment for the purposes of detecting and reducing the threats.

### Main tasks:

- Coordinate with cyber defense staff at the entity level to verify the network alerts.
- Provide daily summary reports on the network-related events and activity related to cyber-security defense practices.
- Develop a content for the cyber defense tools.
- Conduct an analysis of the defense trend for cyber-security and present the related reports.
- Use cyber defense tools for continuous monitoring and analysis of system activity to identify malicious activity.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the tools for evaluating gaps and capabilities of cyber defense.
- Know the method of data traffic via the network (such as: transmission control protocol, Internet protocol, open systems interconnection model and information technology infrastructure library (ITIL).
- Know what constitutes network attack, and the relationship between network attack, and threats and gaps.
- Know cyber attacks and phases thereof.
- Know the policies, procedures and regulations of information security and cyber defense.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- INAN3,INAN4,SCTY3,SCTY4

### SFIA Desirable Skills

## Cybersecurity AI Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252905	Cybersecurity AI Specialist

**Summary of the occupation:** Use advanced mathematical models and machine learning methods to develop algorithms and systems to automate cybersecurity tasks.

### Main tasks:

- Develop global automated processes and artificial intelligence solutions in relation to cybersecurity.
- Determine and develop automated computational solutions, including special analytical and algorithmic solutions.
- Apply knowledge of machine learning, computer visuals, remote sensing or artificial intelligence to critical problems in the field of cybersecurity through software development to measure the feasibility of algorithms/approaches.
- Invent new technologies or develop existing ones according to the latest computer visuals and machine learning technologies
- Collect data and perform statistical analysis and machine learning.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the statistics methods including the Bayesian belief network, machine learning or deep learning.
- Know the processing of natural language.
- Know the analysis of automated logs.
- Know the skills of dealing with machine learning frameworks.
- Advanced skills in dealing with quantitative programming languages, databases inquiries and modeling of data and visual presentation tools.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DESN4,DESN5,SCTY3,SCTY4,SCTY5,VISL4,VISL5

### SFIA Desirable Skills

## Cybersecurity Data Science Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252906	Cybersecurity Data Science Specialist

**Summary of the occupation:** Examine the data from many different sources with the aim of providing insights on security and privacy, design and implement custom algorithms, workflow processes and schemes for large-scale complex data sets used for modeling, and conduct data mining and research.

### Main tasks:

- Analyze the data sources to make applicable recommendations in the field of cybersecurity.
- Issuing the strategic insights related to the cybersecurity field based on the analyses of large data sets.
- Provide applicable cybersecurity recommendations to important stakeholders based on data analysis and findings.
- Issue and implement data mining and data warehouse programs.
- Display the data in innovative formats.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the security features for processing the advanced data in databases.
- Know the principles of data mining and data warehouses.
- The skill of advance processing of data (such as: assumption of value, dimension reduction, calibration, transformation, extraction, filter, smoothness).
- The skill of developing semantic ontology that is understandable to the machine.
- Undertake inquiries and develop algorithms, to analyze data structures.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- INAN3,INAN4,INAN5,VISL4,VISL5,SCTY3,SCTY4,SCTY5

### SFIA Desirable Skills



## Data Mining Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252907	Data Mining Specialist

**Summary of the occupation:** Design and improve data queries and analyses for mining in the facility systems and apply them to obtain information; and create, develop and maintain data supporting tools.

### Main tasks:

- Analyze and assess the data features using statistical software packages; and develop recommendations and processes to improve the operational performance.
- Ensure compliance with the department policies and data specifications.
- Develop customized data queries to analyze information in the company's systems and applications and supervise their implementation.
- Create data the supporting tools and metadata stocks to create, develop, and maintain database files or tables.
- Provide the support in mining the data related to operations team and senior management employees.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Applications programming
- Classification of documents
- Communication Protocol
- Control technology
- Data analysis

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- INAN3,INAN4,DTAN2,DTAN3,DTAN4,PROG2,PROG3,PROG4,DBDS3,DBDS4

### SFIA Desirable Skills

## Big Data Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252908	Big Data Specialist

Summary of the occupation: Conduct big data collection and processing.

### Main tasks:

- Conduct big data collection and processing; summarize the data; and generate the business reports.
- Conduct Queries on big data and collect them from different sources.
- Analyze the data; and design the schemes and graphs.
- Summarize the data; and generate the business reports.
- Answer all questions related to big data required by other departments at work.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Database administration
- Data collection
- Data analysis
- Database design (logical)
- Data warehouse

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- INAN3,INAN4,VISL4

### SFIA Desirable Skills

## Data Science Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252909	Data Science Specialist

**Summary of the occupation:** Examine the data from many different sources; design and implement custom algorithms, workflow processes and schemes for large-scale complex data sets used for modeling; and conduct data mining and research.

### Main tasks:

- Analyze the data sources to make applicable recommendations in data science.
- Issuing the strategic insights related to data science based on the analyses of large data sets.
- Provide thoughtful recommendations and practical solutions in the field of data science, based on data analysis and results.
- Issue and implement data mining and data warehouse programs.
- Display the data in innovative formats.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Data processing and analysis
- Data analysis
- Data collection
- Data modelling
- Data warehouse

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- INAN3,INAN4,INAN5,VISL4,VISL5

SFIA Desirable Skills

## Technical Contracts Management Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252910	Technical Contracts Management Specialist

**Summary of the occupation:** Practice the financial management and procedures related to supplier contract management; audit vendor accounts; identify the differences; resolve key issues with the service provider; and follow up the budget performance contract.

### Main tasks:

- Identify the differences; recommend the corrective actions; and allocate the costs for all IT-related issues; and perform regular audits to ensure compliance with the contract.
- Undertake cost-benefit analysis; and support the team entitled with the management of the relationship with suppliers regarding developing the business cases required to obtain approval for the supplier services.
- Follow up and develop the quality standards systems.
- Prepare the technical reports; and develop the working methods using modern techniques.
- Evaluate the performance of subordinates; identify their training needs; and training and develop their skills.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Contract law
- Information technology
- Contract drafting
- Contract obligating
- Drafting of agreements and contracts

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SORC2,SORC3,SUPP2,SUPP3,SUPP4,ITCM4,PEMT4

### SFIA Desirable Skills

- PDSV4

## Digital Transformation Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252911	Digital Transformation Specialist

**Summary of the occupation:** Identify the sources of information and data necessary for the preparation of digital transformation analysis and testing; choose the best ways, tools and methods to collect, organize and analyze these information and data; and prepare, present and maintain the specialized documents and reports related to digital transformation.

### Main tasks:

- Study and analyze the set plans and elaborate it into a structured operations; organize the activities and information flow path; and ensure that they are targeting the desired service or product.
- Study and analyze the theories, methodologies, information technologies, experiments and practices based on converting raw data into meaningful information for business purposes; and produce recommendations and proposals to adopt the best appropriate modern methods and practices.
- Continuously collect, record and analyze the entity-related information and data according to predefined objectives; prepare and examine the recommendations with IT departments for utilizing in the taking the necessary decision in the process of digital transformation.
- Analyze the predetermined work to identify the best appropriate work strategies in a specific field; and develop the appropriate solutions to the planning problems that may be encountered during the performance of the work, while ensuring the availability of all analyses and rationale supporting the results.
- Prepare the specialized documents and reports related to digital transformation; provide the appropriate recommendations and solutions; and display, clarify, and maintain them on the corresponding database, as per the approved policies and procedures.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking



### Technical competencies:

- Digital design
- Digitalisation
- Applications programming
- Software design
- Reporting

### SFIA Generic Levels of Responsibility

- AUTO6,INFL6,COMP6,KLGE6,BSKL6

### SFIA Required Skills

- BPRE5,BPRE6,ORDI5,ORDI6,STPL5,EMRG4,EMRG5

### SFIA Desirable Skills

- CNSL5,INOV5

## Technical Support Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252912	Technical Support Specialist

**Summary of the occupation:** Develop the appropriate specifications for new devices; receive the new devices; and make sure they comply with the specifications.

### Main tasks:

- Document the devices and accessories in the institution; and record the problems that occur in the devices on a daily basis.
- Perform a periodic and preventive maintenance for the devices.
- Answer the questions of device users on problems; and develop the solutions where possible or direct them to the competent authorities.
- Check the status of the systems; ensure that they contain the required software, such as operating systems; and the refer the major failures to the suppliers or
- Prepare the technical reports; and develop the working methods using modern techniques.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Effective Communication
- Focus on Service Quality
- Ability to build relationships
- Analytical Thinking

### Technical competencies:

- Computers (installation and maintenance)
- Hardware testing
- User support (software)
- Systems investigation
- User support (hardware)

### SFIA Generic Levels of Responsibility

- AUTO4,INFL3,COMP4,KLGE4,BSKL3

### SFIA Required Skills

- ASMG2,ASMG3,ASMG4,CFMG2,CFMG3,CFMG4,CSMG2,CSMG3,ITOP1,ITOP2,ITOP3,ITOP4

### SFIA Desirable Skills

## Encryption Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252913	Encryption Specialist

**Summary of the occupation:** Develop, assess, analyze, and identify weaknesses and methods of improving for encryption systems and algorithms.

### Main tasks:

- Apply cybersecurity functions (such as encryption, access control, and identity management) to reduce opportunities for exploitation.
- Develop, design, and implement encryption algorithms, based on specified needs.
- Detect and analyze encrypted data, stenography, alternate data flows, and other forms of hidden data.
- Enable applications that use the public key by enhancing existing public key infrastructure libraries, and integrate certificate management and encryption functions, as needed.
- Design, develop, integrate, and update the system's security procedures including encryption to ensure confidentiality, integrity, availability, authentication and non-repudiation.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Knowledge of cipher concepts and cipher key management concepts.
- Knowledge of encryption algorithms, capabilities and cyber tools (eg, SSL, PGP).
- Knowledge of import and export regulations related to encryption and other security technologies.
- Knowledge of mathematics (such as logarithms, trigonometry, linear algebra, calculus, integration, statistics, and operational analysis).
- Knowledge of machine-level programming languages (such as assembly languages).

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP5,KLGE5,BSKL4

### SFIA Required Skills

- SWDN2,SWDN3,SWDN4,INAN3,INAN4,PROG2,PROG3

### SFIA Desirable Skills

- SCTY3,SCTY4

## Identity and Permission Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252914	Identity and Permission Specialist

**Summary of the occupation:** Manage the identities of individuals and entities, and their access to IT resources of software and hardware through the application of appropriate systems and processes for identification and verification of identity and permissions.

### Main tasks:

- Work with internal teams to provide and design identity and permission management solutions.
- Collaborate with the designer of cybersecurity architecture to develop an identity and permission management strategy.
- Take measures to ensure that controls are followed when implementing identity and permission management.
- Work with leadership and stakeholders to provide solutions and address gaps in the current implementation of identity and permission management.
- Provide guidance and counseling to other team members on identity and permission management systems and processes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Knowing the assessment processes and giving authority related to cybersecurity.
- Knowledge of methods for controlling access based on existing policies and coping with cybersecurity risks.
- Knowledge of data classification controls and methodologies based on sensitivity and defined risk factors for cybersecurity.
- Knowledge of remote access operations, tools and capabilities regarding customer support.
- Identify the operational consequences of cybersecurity's gaps.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- INAS5,TECH4,SCTY3,SCTY4,SCAD4

### SFIA Desirable Skills

- SCTY5

## Cyber-security Threat Inelegance Analyst

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252915	Cyber-security Threat Inelegance Analyst

**Summary of the occupation:** Collect and analyze information on cyber-security threats from various sources to gain indepth understanding of threats, tactics, methods and procedures of threat factors, to develop indicators that will help detect and predict cyber incidents; and contribute to take the measures that protect the systems and networks from these threats.

### Main tasks:

- Work to improve cyber-security intelligence production, intelligence reports, collection requirements and processes by providing assessment and feedback.
- Identify the intelligence gaps related to cyber threats and the shortcomings.
- Report the dangerous events and intrusion across the networks through cyber-security threat intelligence.
- Provide the specialized expertise to produce specific indicators for cyber operations.
- Provide the cyber-security intelligence analysis and support for specific practices and time-sensitive planning activities and processes.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the intelligence specializations in cybersecurity.
- Know the intelligence preparation of environment, and similar processes.
- Know the intelligence support of planning, implementation and evaluation.
- Know the internal tactics for predicting and simulating the capabilities and works of threats.
- Know the harmful software.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4



### SFIA Required Skills

- INAS5,TECH4,INAN3,SCAD1,SCAD2

### SFIA Desirable Skills

- PENT4,SCTY3,SCTY4,SCAD3

## Cyber Threat Detection Specialist

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252916	Cyber Threat Detection Specialist

**Summary of the occupation:** Proactively search for undetected threats in networks and systems, identify indicators of breach, and recommend mitigation plans.

### Main tasks:

- Provide a summary of the current status of threats and targets of cybersecurity attacks.
- Perform verification steps by comparing actual with expected outcomes, and analyze the differences to determine cybersecurity impact and risks.
- Make recommendations on cybersecurity, resilience, and dependency measures based on the findings of the reviews.
- Monitor and analyze network traffic in terms of malicious activities using network monitoring tools.
- Assess available capabilities in relation to the desired impacts to recommend effective solutions.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know how to exploit the objectives or threats of Internet.
- Know the principal factors of cyber threat.
- Know the adverse procedures, methods and tactics.
- Know sources of information on gaps (such as: alerts, advice, corrections and bulletins).
- Know cyber threats and gaps.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- PENT4,PENT5,SCTY3,SCTY4,SCTY5

SFIA Desirable Skills

## Cyber-security Engineer for cyber Control Systems and Operational Technologies

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252917	Cyber-security Engineer for cyber Control Systems and Operational Technologies

**Summary of the occupation:** Identify, assess and manage the cyber-security risks in the operating systems environment; and evaluate and analyze the effectiveness of current cyber-security controls.

### Main tasks:

- Identify, assess and manage the cyber-security risks in the operating systems environment.
- Assess and analyze the effectiveness of the existing cyber-security controls designed by the cyber-security designer for operational systems and implemented by the cyber-security engineers.
- Provide feedback and recommendations based on the conducted assessments.
- Provide the specific expertise in operational systems to ensure security.
- Control the operational systems in cyber-security.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Electronics and automation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the methodologies and methods of industrial control systems security.
- Know how to evaluate cybersecurity controls of industrial control system environments.
- Know the operation environments of industrial control systems, and the functions thereof.
- Identify the operational consequences of cybersecurity's gaps in industrial control systems and operational techniques.
- Know the components of supervisory control and data acquisition (SCADA).

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DESN4,DESN5,SCTY3,SCTY4,SCTY5

### SFIA Desirable Skills

- SFEN3,SFEN4,SFEN5,COPL4

## Cybersecurity Architecture Designer for Industrial Control Systems and Operational Technologies

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252918	Cybersecurity Architecture Designer for Industrial Control Systems and Operational Technologies

**Summary of the occupation:** Design cybersecurity controls and architecture for industrial control systems and operational technologies' networks and systems, ensuring effective performance, abundance, and security.

### Main tasks:

- Ensure the consistency of systems and architectures acquired or developed of industrial control systems and operational technologies with the entity's cybersecurity architecture guidelines.
- Document and address information security requirements, cybersecurity architecture, and system security engineering for the entity's industrial control systems and operational technologies.
- Issue and integrate cybersecurity designs for industrial control systems, operational techniques, and networks with multi-level security requirements or the requirements for addressing multiple classification levels of data that initially apply to the entity.
- Identify and prioritize system capabilities in industrial control systems, operational technologies, and business functions necessary to restore the system in part or in full following a catastrophic failure.
- Design systems and turnkey solutions for industrial control systems and operational technologies to support the successful delivery of proof-of-concept solutions and pilot project automation in the field of edge computing and artificial intelligence.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Electronics and automation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the range of existing networks, such as: PBX, LANs, WANs, WIFI and SCADA.
- Know the components of supervisory control and data acquisition (SCADA).
- Know the program of information classification at the entity, hacking procedures of industrial control systems and operational techniques.
- Know the structures of industrial control system networks and communication protocols.
- Know the methodologies and methods of industrial control systems security.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DESN4,DESN5,SCTY3,SCTY4,SCTY5,CIPM5

### SFIA Desirable Skills

- SCTY6,QUAS3,QUAS4

## Cybersecurity Defense Analyst for Industrial Control Systems and Operational Technologies

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252919	Cybersecurity Defense Analyst for Industrial Control Systems and Operational Technologies

**Summary of the occupation:** Use the data obtained from a variety of cybersecurity tools to analyze events in the environment of industrial control systems and operational technologies for the purposes of integration, maintenance, and detection and mitigation of cybersecurity threats.

### Main tasks:

- Conduct analyses of, and present reports on, cyber defense trend for industrial control systems and operational technologies.
- Use cyber defense tools for industrial control systems and operational techniques to persistently monitor and analyze system activity to identify malicious activity.
- Monitor external data sources related to industrial control systems and operational technologies (such as, locations of cyber defense suppliers, emergency response teams, and security focus) to maintain the state of cyber defense against threats and identify security problems that would affect the entity.
- Document and escalate cybersecurity incidents related to industrial control systems and operational technologies (including incident date, status, and potential impact to undertake additional activity), which may cause a continuous and immediate impact on the entity's environment and business.
- Ensure that available cybersecurity products or compensatory security control technologies reduce cybersecurity risks of control systems and operational technologies to an acceptable level in the entity.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Electronics and automation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking



### Technical competencies:

- Know the concepts of industrial control systems management and operational technologies.
- Know the policies, procedures and regulations of IT security and cyber defense of industrial control systems and operational techniques.
- Know the methodologies and methods of industrial control systems security.
- Know the components of supervisory control and data acquisition (SCADA).
- Know the components of supervisory control and data acquisition (SCADA).

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- INAN3,INAN4,SCTY3,SCTY4

### SFIA Desirable Skills

## Cybersecurity Risk Specialist for Industrial Control Systems and Operational Technologies

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252920	Cybersecurity Risk Specialist for Industrial Control Systems and Operational Technologies

**Summary of the occupation:** Identify, assess and manage the cybersecurity risks in the environment of operational technologies. Evaluate and analyze the effectiveness of current cybersecurity controls designed by the cybersecurity designer for industrial control systems and operational technologies and implemented by cybersecurity engineers for operational technology systems, provide feedback and recommendations based on the conducted evaluations.

### Main tasks:

- Conduct an analysis of cybersecurity risks for industrial control systems and operational technologies (such as threat, vulnerabilities, and likelihood of occurrence) at any time the application or the systems undergo a fundamental change.
- Develop a cybersecurity risk management strategy for industrial control systems and operational technologies, including determining the level of cyber risk tolerance in the entity.
- Provide guidance in relation to supply chain risk management and cybersecurity to issue the plans of operational processes continuity for industrial control systems and operational technologies.
- Assess the threats and vulnerabilities of industrial control systems and operational technologies to issue a security risk file.
- Work with officials in the entity to ensure that the data of continuous monitoring tools allow the recognition of cyber risk levels on industrial control systems and operational technologies.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Electronics and automation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Identify threats and gaps in industrial control's systems and environments.
- Know strategies of cybersecurity risks management, and limit the same in industrial control systems environment and operational techniques.
- Know the practices of cybersecurity risks management of supply chains (such as: standard of NIST SP 800-161 ).
- Know the components of supervisory control and data acquisition (SCADA).
- Know the operation environments of industrial control systems, and the functions thereof.

### SFIA Generic Levels of Responsibility

- AUTO4,INFL4,COMP4,KLGE4,BSKL4

### SFIA Required Skills

- SCTY3,SCTY4

### SFIA Desirable Skills

- SFEN3,SFEN4,COPL4

## Cyber Incident Response Specialist for Industrial Control Systems and Operational Technologies

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252921	Cyber Incident Response Specialist for Industrial Control Systems and Operational Technologies

**Summary of the occupation:** Investigate, analyze and respond to cybersecurity incidents in the environment of industrial control systems and operational technologies.

### Main tasks:

- Primarily collect and examine digital forensic evidence of all types to identify possible methods of mitigation and remediation related to industrial control systems and operational technologies in the entity.
- Sort cyber defense incidents of industrial control systems and operational technologies, including the determination of the scope, urgency, and potential impact, identify the gaps, and make recommendations that will provide prompt handling.
- Collect evidence of intrusion from industrial control systems and operational technologies (such as, source code, malware, and Trojan horse programs), use the detected data to reduce potential incidents of cyber defense within the entity.
- Coordinate and provide expert technical support to cyber defense technicians at the entity level in order to resolve any cyber defense incidents for industrial control systems and operational technologies.
- Promptly address incidents related to cyber defense of industrial control systems and operational technologies (such as, collecting forensic evidence, linking and tracking intrusion cases, analyzing the threats, and directly remedy the system) with the aim of providing support to widespread incident response teams.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration
- Electronics and automation
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know methods for revealing intrusion, to state cases of intrusion into industrial control systems.
- Know the background of threats of industrial control systems.
- Know the methodologies and methods of industrial control systems security.
- Know the structures of industrial control system networks and communication protocols.
- Know methodologies to process and respond to cybersecurity accidents for industrial control systems and operational techniques.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DGFS4,DGFS5,SCTY3,SCTY4,USUP2,USUP3,USUP4,USUP5

### SFIA Desirable Skills

- PBMG4,PBMG5

## Cybercrime Investigator

Major group	2	Professionals
Sub-major group	25	Information and communications technology professionals
Minor group	252	Database and network professionals
Unit group	2529	Database and network professionals not elsewhere classified
Occupation	252922	Cybercrime Investigator

**Summary of the occupation:** Identify, collect, examine and maintain evidence, using documented and controlled analytical and investigative methods.

### Main tasks:

- Develop a plan to investigate cybersecurity crimes, alleged breaches, or suspected activity, using computers and the Internet.
- Determine whether the cybersecurity incident indicates a violation of the system in a manner that requires specific regulatory action.
- Conduct interviews with victims and witnesses, and interrogate suspects of cybersecurity incidents.
- Coordinate with the incident response team and other groups, internally (such as, the legal department), and externally (such as, law enforcement agencies, suppliers, and public relations representatives).
- Prepare reports to document investigations in cybersecurity crimes according to legal controls and requirements.

### Educational requirements

Minimum educational level: Bachelor degree

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Problem Solving
- Communication with individuals and leaders
- Strategic Thinking
- Analytical Thinking
- Critical Thinking

### Technical competencies:

- Know the applicable laws, regulations, legislations and policies that govern cyber targeting and exploiting.
- Know how to collect, fill, transfer and store e-evidence, maintaining the chain of custody.
- Know the social dynamics of computer attackers in a global context.
- Know the legal rules of substantiating and court proceedings.
- Know the procedures of investigating and informing internal threats, and use the tools of investigation, laws and regulations of cybersecurity.

### SFIA Generic Levels of Responsibility

- AUTO5,INFL5,COMP5,KLGE5,BSKL5

### SFIA Required Skills

- DGFS4,DGFS5,SCTY3,SCTY4,USUP2,USUP3,USUP4,USUP5

### SFIA Desirable Skills

- PBMG3,PBMG4,PBMG5

## Radio Broadcast Electronic Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311401	Radio Broadcast Electronic Technician

**Summary of the occupation:** Study radio broadcasting stations equipment installation diagrams, and follow up procedures of experimental operation, as well as implementation of preventive maintenance programs; determine required spare parts list, and follow up provision thereof.

### Main tasks:

- Study radio broadcasting stations equipment installation diagrams, determine installation locations thereof, and monitor installation thereof according to installation manuals.
- Follow up radio broadcasting equipment experimental operation procedures, as well as operation procedures thereof according to operation diagrams.
- Follow up radio broadcasting equipment preventive maintenance programs implementation, diagnose faults by using inspection and measuring devices, and follow up repair and control thereof.
- Determine required spare parts list, and follow up provision thereof.
- Apply OHS procedures and instructions.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Electronics fitting
- Spare parts
- Operating system
- Servicing (electronics)
- Quality (responsibility for)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

- SFEN3

## Television Broadcast Electronic Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311402	Television Broadcast Electronic Technician

**Summary of the occupation:** Study television broadcasting stations equipment installation diagrams, and follow up procedures of experimental operation, as well as implementation of preventive maintenance programs; determine required spare parts list, and follow up provision thereof.

### Main tasks:

- Study television broadcasting stations equipment installation diagrams, determine installation locations thereof, and monitor installation thereof according to installation manuals.
- Follow up television broadcasting equipment experimental operation procedures, as well as operation procedures thereof according to operation manuals.
- Follow up television broadcasting equipment preventive maintenance programs implementation, diagnose faults by using inspection and measuring devices, and follow up repair and control thereof.
- Determine required spare parts list, and follow up provision thereof.
- Apply OHS procedures and instructions.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Electronics fitting
- Spare parts
- Operating system
- Servicing (electronics)
- Quality (responsibility for)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

- SFEN3

## Electronic Devices Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311403	Electronic Devices Technician

**Summary of the occupation:** Install and monitor electronic devices such as circuits, controls and machinery, and assist electronics engineers in R&D activities.

### Main tasks:

- Study diagrams and determine required quantity of materials, equipment and manpower based thereon.
- Direct and coordinate efforts of workers, mechanics and other craftsmen in installation of electronic devices .
- Test electronic devices upon installation thereof, and ensure compliance with diagrams and specifications.
- Perform routine inspections included in preventive maintenance; diagnose potential damage and faults; and take corrective actions.
- Provide technical assistance to engineers in R&D efforts regarding electronic devices.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Reading of technical drawings
- TV/video/radio/hi-fi
- Electronics fitting
- Machinery electronics (trouble-shooting/repairing)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

- HSIN4

## Electronic Devices Maintenance Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311404	Electronic Devices Maintenance Technician

**Summary of the occupation:** Track electronic devices and equipment; diagnose electronic faults, and determine causes thereof; estimate quantity and cost of materials and requirements; follow up implementation of required maintenance activities; inspect devices upon repair thereof; follow up implementation of preventive maintenance programs according to preventive maintenance programs; prepare and submit work reports.

### Main tasks:

- Follow electronic diagrams of electronic systems, wiring, devices and equipment, and identify fault diagnosis procedures.
- Diagnose faults of electronic systems, wiring, devices and equipment, estimate quantity and cost of maintenance materials and requirements, and follow up provision thereof.
- Follow up faults repair procedures, and inspect devices and equipment upon repair thereof to ensure accurate performance and adjustment thereof.
- Follow up implementation of preventive maintenance programs for electronic systems, wiring, devices and equipment according to preventive maintenance programs.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Electronics
- Vehicle electronics (repairing)
- Maintenance (medical-technical equipment)
- Reporting

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

## Precision Instruments Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311405	Precision Instruments Technician

**Summary of the occupation:** Study precision devices installation shop drawings, and determine quantities of materials required for completion of work; perform preventive maintenance, diagnose potential damage and flaws, and take corrective actions.

### Main tasks:

- Study precision devices installation shop drawings, and follow up procedures of installation thereof.
- Determine quantities of materials required for completion of work, and follow up provision of required work tools and instruments.
- Test and adjust current, voltage, frequency, pressure, level and temperature transmitters.
- Perform preventive maintenance; diagnose potential damage and breakdowns, and take corrective actions.
- Apply OHS procedures and instructions.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Electronics fitting
- Material testing
- Operating system
- Servicing (electronics)
- Quality (responsibility for)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,PROD3

### SFIA Desirable Skills

- SFEN3

## Digital Equipment Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311406	Digital Equipment Technician

**Summary of the occupation:** Study digital equipment installation diagrams, and perform procedures of experimental operation thereof, as well as prepare required spare parts list, and perform preventive maintenance.

### Main tasks:

- Study digital equipment installation diagrams such as: game machines and digital crises, as well as follow installation procedures thereof.
- Perform digital equipment experimental operation procedures, and follow up operation thereof according to operation manuals.
- Prepare a list of spare parts required for digital equipment, and provide such spare parts.
- Perform preventive maintenance; diagnose potential damage and breakdowns, and take corrective actions.
- Apply OHS procedures and instructions.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Electronics fitting
- PC installation and maintenance
- Routers (installation and maintenance)
- Servicing (electronics)
- Quality (responsibility for)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

- SFEN3

## Autotronics Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311407	Autotronics Technician

**Summary of the occupation:** Study autotronics shop drawings; install and connect such autotronics; perform procedures of experimental operation thereof, as well as prepare required spare parts list; perform preventive maintenance; diagnose potential damage and breakdowns, and take corrective actions.

### Main tasks:

- Study autotronics shop drawings; install and connect such autotronics; install drivers and applications.
- Perform autotronics experimental operation procedures, and follow up operation thereof according to operation manuals.
- Prepare a list of spare parts required for autotronics, and provide such spare parts.
- Perform preventive maintenance; diagnose potential damage and breakdowns, and take corrective actions.
- Apply OHS procedures and instructions.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Vehicle electronics (repairing)
- Car electrics
- Electronic Diesel Control systems (repairing)
- Spare parts
- Quality (responsibility for)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,PROD3

### SFIA Desirable Skills

- SFEN3

## Medical Devices Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311408	Medical Devices Technician

**Summary of the occupation:** Follow up installation and operation of medical devices, as well as corrective maintenance procedures; implement preventive maintenance programs as per manufacturer's instructions.

### Main tasks:

- Follow medical devices installation diagrams such as: dialysis device, VADs, RADs, medical imaging devices, medical ultrasound machines, etc.; determine installation locations thereof, follow-up installation procedures, and prepare required spare parts list.
- Follow-up medical devices' experimental operation procedures, and operation procedures according to operation manuals; train medical devices users on proper operation and control procedures.
- Follow medical devices electronic circuit diagrams, diagnose failures thereof by using testing and measuring devices, and implement repair and control procedures.
- Implement preventive maintenance programs of medical devices according to manufacturer's instructions.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Medical electronics
- Maintenance (medical-technical equipment)
- Medico-technical engineering
- Medical device engineering

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3

### SFIA Desirable Skills

## Electronic Engineering Technician

Major group	3	Technicians and associate professionals
Sub-major group	31	Science and engineering associate professionals
Minor group	311	Physical and engineering science technicians
Unit group	3114	Electronics engineering technicians
Occupation	311409	Electronic Engineering Technician

**Summary of the occupation:** Install and monitor electronic systems such as circuits, controls and machinery, and assist electronics engineers in R&D activities.

### Main tasks:

- Determine diagrams and required quantity of materials, equipment and manpower based thereon.
- Direct and coordinate efforts of workers, mechanics and other craftsmen in installation of electronic systems.
- Test systems upon installation thereof, and ensure compliance with diagrams and specifications.
- Perform routine inspections included in preventive maintenance; diagnose potential damage and faults; and take corrective actions.
- Provide technical assistance to engineers in R&D efforts regarding electronic equipment.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Electronics and automation

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Technical terminology
- Digital electronics
- Electronics
- Technical documentation
- Material testing

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3



### SFIA Desirable Skills

- HSIN4

## IT Operations Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3511	Information and communications technology operations technicians
Occupation	351101	IT Operations Technician

**Summary of the occupation:** Apply and implement plans related to IT operations; identify necessary tools and requirements; provide technical assistance to IT engineer and specialist in performance of duties thereof; save data and information related to IT operations; prepare and submit work reports.

### Main tasks:

- Apply, implement and comply with technical plans related to IT operations in accordance with regulatory policies and procedures.
- Determine tools and requirements required for implementation of IT operations according to regulatory policies and procedures and provided directions; determine lack thereof, and submit the same to concerned parties for provision thereof.
- Provide technical assistance to IT engineer and specialist; assist the same in all operations as well as performance of duties and tasks thereof; implement duties assigned thereto thereby.
- Preserve data and information related to all IT technical operations; classify and assort the same based on approved practices.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Computer use
- Database and network design and administration
- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Cable installations
- Computers (installation and maintenance)
- Printers (installation and maintenance)
- Servers (installation and maintenance)

- Operating system

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3

### SFIA Desirable Skills

- HSIN4,ITOP4

## Communications Operations Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3511	Information and communications technology operations technicians
Occupation	351102	Communications Operations Technician

**Summary of the occupation:** Apply and implement plans related to communications operations; identify necessary tools and requirements; provide technical assistance to communications engineer and specialist in performance of duties thereof; save data and information related to communications operations; prepare and submit work reports.

### Main tasks:

- Apply, implement and comply with plans related to all communications operations and works in accordance with regulatory policies and procedures.
- Determine tools and requirements required for implementation of communications operations according to regulatory policies and procedures and provided directions; determine lack thereof, and submit the same to concerned parties for provision thereof.
- Provide technical assistance to communications engineer and specialist; assist the same in all operations as well as performance of duties and tasks thereof; implement duties assigned thereto thereby.
- Preserve data and information related to all communications technical operations; classify and assort the same based on approved practices.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Hubs (installation and maintenance)
- Routers (installation and maintenance)
- Web servers (installation and maintenance)
- Telecommunications

- Internal telephone network (installation)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3,NTAS2,NTAS3

### SFIA Desirable Skills

- HSIN4,ITOP4

## Digital Printing Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3511	Information and communications technology operations technicians
Occupation	351103	Digital Printing Technician

Summary of the occupation: Complete all required printing work and maintain supplies, equipment and work records.

### Main tasks:

- Detect mechanical and technical issues associated with the operation of printing machines
- Communicate with maintenance technicians when needed, and record maintenance data appropriately.
- Provide daily, weekly and monthly reports to departments.
- Follow up daily operations of printing machines.
- Train new staff on how to operate equipment and digital printing machine.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Computer use

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Typography
- Quality control
- Digital printing

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2

### SFIA Desirable Skills

- ITOP3



## IT Support Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3512	Information and communications technology user support technicians
Occupation	351201	IT Support Technician

**Summary of the occupation:** Provide technical support and assistance to employees and customers facing problems in IT and support them; identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them; provide technical information on IT devices, systems and programs; save data and information related to technical support operations; prepare and submit work reports.

### Main tasks:

- Provide technical support and assistance to employees and customers facing problems in IT; support the same and answer questions and inquiries thereof in order to solve technical problems facing them.
- Identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them according to regulatory policies and procedures; determine lack thereof and submit the same to concerned parties for provision thereof.
- Provide technical information on IT devices, systems and programs, and refer to IT specialists upon significant issues.
- Preserve data and information related to all technical support operations ; classify and assort the same based on approved practices.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Computer use
- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- User support (hardware)
- Printers (installation and maintenance)



- Servers (installation and maintenance)
- Computers (installation and maintenance)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3

### SFIA Desirable Skills

- HSIN4,ITOP4

## Communications Support Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3512	Information and communications technology user support technicians
Occupation	351202	Communications Support Technician

**Summary of the occupation:** Provide technical support and assistance to employees and customers to solve problems of communication lines; identify tools and requirements necessary for supporting employees and customers; provide technical information on communications equipment and systems; save data and information related to technical support; prepare and submit reports.

### Main tasks:

- Provide technical support and assistance to employees and customers facing problems in communication lines; support the same and answer questions and inquiries thereof in order to solve technical problems facing them.
- Identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them according to regulatory policies and procedures; determine lack thereof and submit the same to concerned parties for provision thereof.
- Provide technical information on communication devices, systems and programs, and refer to communication specialists upon significant issues.
- Preserve data and information related to all technical support operations ; classify and assort the same based on approved practices.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Hubs (installation and maintenance)
- Routers (installation and maintenance)
- Web servers (installation and maintenance)
- Internal telephone network (installation)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3,NTAS2,NTAS3

### SFIA Desirable Skills

- HSIN4,ITOP4

## Software Support Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3512	Information and communications technology user support technicians
Occupation	351203	Software Support Technician

**Summary of the occupation:** Provide technical support and assistance to employees and customers facing problems in software and support them; identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them; provide technical information on IT devices, systems and programs; save data and information related to technical support operations; prepare and submit work reports.

### Main tasks:

- Develop and solve issues and problems that users are facing.
- Perform required amendments as requested by the programmer; document the work of the programs; make backups
- Preserve data and information related to all technical support operations ; classify and assort the same based on approved practices.
- Develop and implement quality control tests for software products; ensure compliance with standards and customer requirements.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Software development
- Software testing
- User support (software)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- PROG2,PROG3,ASUP2,ASUP3

### SFIA Desirable Skills

## Database Support Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3512	Information and communications technology user support technicians
Occupation	351204	Database Support Technician

**Summary of the occupation:** Improve and develop effectiveness of database tools and services; ensure compliance of all data with laws and regulations as well as protection and backup thereof.

### Main tasks:

- Study, analyze and plan rules of database using, directing and coordinating; ensure integrity thereof and non-overlapping of data therein; provide technical support.
- Prepare specialized documents and reports related to management of database; provide, display, clarify the appropriate recommendations and solutions, and save them on a database, as per the approved policies and procedures.
- Monitor data entry procedures, and detect faults thereof.
- Apply security measures for protection of information in computer files against unexpected damage or unauthorized modification.
- Analyze, integrate and modify databases for achievement of maximum effectiveness

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Database administration
- Database development
- Open Database Connectivity (database administration)
- Relational databases (database administration)
- Data warehouse

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- DBAD2,DBAD3,DATM2,DATM3

### SFIA Desirable Skills

## IT Network Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3513	Computer network and systems technicians
Occupation	351301	IT Network Technician

**Summary of the occupation:** Provide technical support and assistance to employees and customers facing problems in IT networks and support them; identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them; provide technical information on IT devices, systems and programs; save data and information related to technical support operations; prepare and submit work reports.

### Main tasks:

- Provide technical support and assistance to employees and customers facing problems in IT networks; support the same and answer questions and inquiries thereof in order to solve technical problems facing them.
- Identify tools and requirements necessary for implementation of supporting employees and customers and solve problems facing them according to regulatory policies and procedures; determine lack thereof and submit the same to concerned parties for provision thereof.
- Provide technical information on IT devices, systems and programs, and refer to IT specialists upon significant issues.
- Preserve data and information related to all technical support operations ; classify and assort the same based on approved practices.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- User support (hardware)
- Printers (installation and maintenance)
- Servers (installation and maintenance)
- Computers (installation and maintenance)



- Network administration

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,NTAS2,NTAS3

### SFIA Desirable Skills

- HSIN4,NTAS4

## Communications Networks Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3513	Computer network and systems technicians
Occupation	351302	Communications Networks Technician

**Summary of the occupation:** Extend wires, deliver equipment required for operation of networks; ensure operation of telephones and Internet; connect all wires in and outside buildings; prepare a report to direct manager.

### Main tasks:

- Know transmission, broadcast, switching, control and operation of communication systems
- Follow up and solve network problems under the supervision of network engineer
- Maintain routine maintenance of equipment and tools; determine time and type of required maintenance.
- Test equipment that has been newly repaired, installed, or updated to ensure proper function and compliance thereof with specifications.
- Test circuits and components of faulty wired and wireless communication equipment to identify and repair fault sources.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Telecommunications
- Internal telephone network (installation)
- Telecommunications technology

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,NTAS2

### SFIA Desirable Skills

- HSIN4,RFEN2,RFEN3,RFEN4,NTAS3

## Communication Systems Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3513	Computer network and systems technicians
Occupation	351303	Communication Systems Technician

**Summary of the occupation:** Collect data and information; study a partial unit of systems; document systems inspection procedures; design systems' subsystems; prepare technical specifications models; prepare and submit work reports.

### Main tasks:

- Prepare forms for data and information collection, and collect the same from different sources.
- Prepare prototypes for analytical study; study and analyze a partial unit of the system according to user's need; follow up, monitor and document procedures of system inspection, and prepare manuals.
- Design the equipment and systems, and define performance and quality standards.
- Prepare technical specifications for programs; participate in estimating systems' financial cost.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Systems theory and computer communications (teaching)
- Operating system
- Server operating system
- Reporting

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- DESN4,HWDE4

SFIA Desirable Skills

## Computer Systems Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3513	Computer network and systems technicians
Occupation	351304	Computer Systems Technician

**Summary of the occupation:** Collect data and information; study a partial unit of systems; document systems inspection procedures; design systems' subsystems; prepare technical specifications models; prepare and submit work reports.

### Main tasks:

- Prepare forms for data and information collection, and collect the same from different sources.
- Prepare prototypes for analytical study; study and analyze a partial unit of the system according to user's need; follow up, monitor and document procedures of system inspection, and prepare manuals.
- Design and document system's subsystems such as input and output screens
- Prepare technical specifications for programs; participate in estimating systems' financial cost.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Software and applications development and analysis

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Systems theory and computer communications (teaching)
- Operating system
- Server operating system
- Data processing and analysis

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- SWDN2,SWDN3,HCEV3

### SFIA Desirable Skills

- SWDN4,DESN4,HCEV4

## Website Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3514	Web technicians
Occupation	351401	Website Technician

**Summary of the occupation:** Study and maintain site's structure and design; prepare and submit work reports.

### Main tasks:

- Study site structure parts; prepare inputs' prototypes; test and discuss the design with site developer.
- Use tools required for design of site; collect and design elements thereof; design site's pages; prepare elements for use.
- Design and link forms and tables to the database; add scripts; format page elements; create general pattern panel, and configure the page for search engines.
- Follow-up site hosting server operation as well as visitors' views and comments; update site's contents and ready-made scripts.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Web browser
- Web page management
- Web servers (installation and maintenance)
- Web editing
- Graphing

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3



### SFIA Required Skills

- HCEV3,SWDN2,SWDN3

### SFIA Desirable Skills

- ITOP1,ITOP2,ITOP3,DBAD2,DBAD3,DBAD4

## Website Administrator

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3514	Web technicians
Occupation	351402	Website Administrator

**Summary of the occupation:** Add and format content continuously; monitor visitors' number; set plans to increase visitors' number; ensure proper and sound function of all servers

### Main tasks:

- Generate and revise web pages, and ensure lack of errors.
- Study site's activity, visitors' number, and ways attracting visitors to site, whether through Google search or social media.
- Manage permissions of other users adding content; monitor the same, and review work thereof.
- Handle submitted complaints or queries from users
- Back up the site for preservation thereof in event of failure; monitor the server continuously; handle any problem that may occur.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Web page management
- Web content management software
- Active Server Pages (ASP)

### SFIA Generic Levels of Responsibility

- AUTO2,INFL2,COMP2,KLGE2,BSKL2

### SFIA Required Skills

- ICPM1,ICPM2,HSIN1,HSIN2,SCAD1,SCAD2,ITOP1,ITOP2,CSMG1,CSMG2

### SFIA Desirable Skills

- USUP2



## Website Maintenance Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	351	Information and communications technology operations and user support technicians
Unit group	3514	Web technicians
Occupation	351403	Website Maintenance Technician

**Summary of the occupation:** Assist in website content management or support in security aspects; provide all services required for website maintenance and support in terms of updates and daily duties of websites maintenance.

### Main tasks:

- Solve website's problems upon occurrence thereof; examine problems and software errors
- Update and check websites' security aspects periodically
- Make backups to minimize website failure time
- Update and check websites' advertisement on search engines
- Update and support content management systems.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Web browser
- Web content management software
- Web servers (installation and maintenance)
- Web editing

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- ASUP2,ASUP3,SCAD1,SCAD2,ITOP1,ITOP2,ITOP3,ICPM1,ICPM2

### SFIA Desirable Skills

- ICPM3



## Wired Communication Engineering Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	352	Telecommunications and broadcasting technicians
Unit group	3522	Telecommunications engineering technicians
Occupation	352201	Wired Communication Engineering Technician

**Summary of the occupation:** Follow up wired networks installation and operation procedures; install and operate wireless communication networks; implement preventive maintenance programs for wired and wireless communication networks and devices; prepare and submit work reports.

### Main tasks:

- Study installation diagrams of wired networks using aerial, ground and fiber optic cables; determine installation locations; follow up network installation procedures according to diagrams; conduct experimental operation of wired networks.
- Study installation diagrams of wireless networks; determine installation locations; follow up network installation procedures according to diagrams; conduct experimental operation of wireless networks.
- Examine and measure performance of wired and wireless network; monitor results; diagnose failures by using examination and measurement devices as well as computer technologies; follow-up repair and adjustment.
- Implement preventive maintenance programs of wired and wireless communication networks according to manufacturer's instructions.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Telecommunications technology
- Telecommunications transmission
- Communication Protocol
- Internal telephone network (installation)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3

### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3

### SFIA Desirable Skills

## Wireless Communication Engineering Technician

Major group	3	Technicians and associate professionals
Sub-major group	35	Information and communications technicians
Minor group	352	Telecommunications and broadcasting technicians
Unit group	3522	Telecommunications engineering technicians
Occupation	352202	Wireless Communication Engineering Technician

**Summary of the occupation:** Follow up wireless networks installation and operation procedures; implement preventive maintenance programs for wireless communication networks and devices; prepare and submit work reports.

### Main tasks:

- Study installation diagrams of wireless networks; determine installation locations; follow up network installation procedures according to diagrams; conduct experimental operation of wireless networks.
- Examine and measure performance of wireless network; monitor results; diagnose failures by using examination and measurement devices as well as computer technologies; follow-up repair and adjustment.
- Implement preventive maintenance programs of wireless communication networks according to manufacturers' instructions.
- Prepare, submit, document and archive work's reports.

### Educational requirements

Minimum educational level: Diploma

### Educational field(s):

- Database and network design and administration

### Behavioural and artistic competencies:

- Team Work
- Goals/ results Oriented
- Self Development
- Perseverance
- Organization

### Technical competencies:

- Telecommunications technology
- Telecommunications transmission
- Communication Protocol
- Cable TV network (installation)

### SFIA Generic Levels of Responsibility

- AUTO3,INFL3,COMP3,KLGE3,BSKL3



### SFIA Required Skills

- HSIN1,HSIN2,HSIN3,ITOP1,ITOP2,ITOP3

### SFIA Desirable Skills