Provincial Occupational Analysis

Nova Scotia

Alarm and Security Technician Trade

Nova Scotia Apprenticeship Agency
Department of Labour and Advanced Education
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TABLE OF CONTENTS

To facilitate the understanding of the occupation, the work performed is divided into the following categories:

Block	the largest division within the analysis which reflects a distinct set of operations relevant to the occupation.
Task	the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform in a block.
Sub-task	the smallest division of work activities that, combined together, fully describe all duties of a task.
Supporting Knowledge and Abilities	the elements of skill and knowledge that an individual must acquire to adequately perform a sub-task.

The appendices located at the end of the analysis are described as follows:

Appendix A – Tools and Equipment	a non-exhaustive list of tools and equipment used in this trade.
Appendix B – Blocks and Tasks Weighting	the block and task weighting chart identifies the approximate number of questions on the certification examination pertaining to each task within a block.
Appendix C – Pie Chart	a graph which identifies the approximate number of questions on the certification examination from each particular skill block.
Appendix D – Task Profile Chart	a chart which outlines the blocks, tasks and sub-tasks of this analysis. This chart is a useful self-assessment tool to determine your current knowledge and skills based on the tasks and sub-tasks of the trade.

ANALYSIS

SCOPE OF THE TRADE

The Alarm and Security Technician trade in Nova Scotia means the installation, adjustment, alteration, inspection, testing, activation, repair and service of security systems, including intrusion alarm systems, access control systems, closed circuit video (CCTV) systems, remote signaling systems connected to alarm outputs from fire and sprinkler systems or any equipment or accessories essential to the operation thereof.

In performing the trade, the technician:

- analyzes the security needs, wants and risk
- conducts a physical survey of the area(s) to be secured, its operations, client behavior and lifestyles
- designs the security system including the selection of input and output devices, the control equipment, monitoring, viewing and/or signaling equipment and any accessories essential to the operation thereof
- prepares for the system installation by reading the work order and checking the site drawings to confirm locations for the security equipment
- confirms the availability of all 3rd party services such as telephone line(s) and power
- obtains tools, equipment and supplies required to do installation
- locates all shut-offs and does a safety hazard assessment
- installs low voltage (50v or less) security system(s) including cable and wire terminations to all devices/equipment and system accessories
- programs on-site control equipment and does off-site programming including downloading of software
- establishes necessary records for off-site monitoring
- conducts post installation follow-up including system performance test(s)
- provides customer with a system demonstration and operational training
- performs both on-site and off-site tests and maintenance and maintains repair history

BLOCK A BASIC WORK PRACTICES AND PROCEDURES

Task 1	**Participates in workplace health and safety practices.**

Sub-task 1.01 Demonstrates awareness of safety procedures, regulations and standards and maintains a safe work environment.

Supporting Knowledge & Abilities

Knowledge of workplace safety and health regulations such as Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), Occupational Health and Safety Act (OH&S)).
Knowledge of Materials Safety Data Sheets (MSDS) system.
Knowledge of company safety policies and procedures.
Knowledge of good housekeeping practices.
Knowledge of emergency procedures and location of on-site first aid stations and equipment.
Knowledge of industry standards and guidelines such as Underwriters Laboratories of Canada (ULC), Canadian Standards Association (CSA), Canadian Fire Alarm Code, Electronics Industry Association/ Telecommunications Industry Association (EIA/TIA) and Institute of Electrical and Electronic Engineers (IEEE).
Ability to locate and interpret safety procedures, regulations and standards.
Ability to recognize and report equipment defects and safety hazards.
Ability to store and/or dispose of waste and hazardous materials.

Sub-task 1.02 Uses personal protective equipment (PPE) and safety equipment.

Supporting Knowledge & Abilities

Knowledge of types and applications of PPE and safety equipment such as safety glasses, gloves, hearing protection.
Ability to select and safely use PPE and safety equipment required for the task.
Ability to recognize unsafe, worn, damaged or defective PPE and safety equipment.
Ability to clean and store PPE and safety equipment.

Task 2	**Uses equipment, tools and instruments.**

Sub-task
2.01 Uses hand tools.

Supporting Knowledge & Abilities

Knowledge of types and applications of hand tools (refer to Appendix A).
Ability to select and safely use hand tools required for task.
Ability to maintain hand tools in good working order.
Ability to clean and lubricate hand tools.
Ability to recognize unsafe, worn, damaged or defective hand tools.
Ability to store hand tools.

Sub-task
2.02 Uses power tools.

Supporting Knowledge & Abilities

Knowledge of types and applications of power tools (refer to Appendix A).
Knowledge of power tools components and accessories.
Ability to select and safely use power tools required for task.
Ability to clean and lubricate power tools.
Ability to recognize unsafe, worn, damaged or defective power tools.
Ability to store power tools.

Sub-task
2.03 Uses technical instruments and testers.

Supporting Knowledge & Abilities

Knowledge of types and applications of technical instruments and testers (refer to Appendix A).
Ability to select and safely use technical instruments and testers required for task.
Ability to interpret results from using technical instruments and testers.
Ability to calibrate technical instruments and testers as required.
Ability to recognize unsafe, worn, damaged or defective technical instruments and testers.
Ability to clean and store technical instruments and testers.
Ability to perform basic power measurements in AC and DC circuits.
Ability to measure voltage, frequency, resistance, current and wave forms.

Sub-task
2.04 Uses soldering/de-soldering equipment.

Supporting Knowledge & Abilities

Knowledge of types and applications of solder such as 50/50, acid-core, resin-core, silver solder.
Knowledge of types and applications of soldering tools and equipment (refer to Appendix A).
Knowledge of types and applications of de-soldering tools and equipment (refer to Appendix A).
Ability to select and safely use soldering/de-soldering tools and equipment for required task.
Ability to solder electronic components, wires and cables.
Ability to recognize unsafe, worn, damaged or defective soldering/de-soldering equipment.
Ability to clean and store soldering/de-soldering equipment.

Task 3	**Communicates effectively on the job.**

Sub-task
3.01 Establishes and maintains effective communication with co-workers, customers and other professionals.

Supporting Knowledge & Abilities

Knowledge of trade terminology.
Knowledge of company procedures, organizational structures and rules of conduct governing communications among internal/external stakeholders.
Ability to translate technical terms into layperson language.
Ability to communicate effectively with supervisors, co-workers and other tradespersons.
Ability to communicate effectively with customers, suppliers and manufacturers.
Ability to train customers on the use of alarm and security systems.
Knowledge of accepted conversions for producing and using technical drawings and graphs.
Ability to produce and interpret drawings, graphs, sketches and tables.
Ability to produce and interpret reports, diagrams, schedules and charts.
Ability to mentor apprentices.

Sub-task
3.02 Uses computers.

Supporting Knowledge & Abilities

Knowledge of computer technology and its applications in the Alarm and Security trade.
Knowledge of types and applications of computer operating systems.
Ability to interpret instruction manuals.
Ability to learn existing, company-operated computer applications.
Ability to use computers in technical applications.
Ability to use computer operating systems.
Ability to set up and configure ports for communications between computer and devices.
Ability to load software and use proper file management techniques.
Ability to troubleshoot communication problems.

Sub-task
3.03 Completes trade documentation and reports.

Supporting Knowledge & Abilities

Knowledge of types and applications of trade documentation and reports such as estimates, work orders, maintenance check sheets, commission reports, inventory control.
Ability to complete trade-related documents, reports and correspondence.
Ability to write instructions and procedures.

Task 4	**Uses basic electrical, electronic and digital devices and circuits.**

Sub-task
4.01 Applies electrical and electronic concepts to job-related tasks.

Supporting Knowledge & Abilities

Knowledge of Kirchhoff's Law and Ohm's Law.
Knowledge of insulating or conductive properties of materials.
Knowledge of typical hardware such as batteries, charging systems, relays, programmable timers.
Ability to select circuits for given applications.
Ability to determine transformer ratios and frequencies and solve impedance matching problems.
Ability to calculate resonant frequency, bandwidth, Q and frequency response in series/parallel RLC circuits.
Ability to analyze and troubleshoot circuits and networks such as RLC circuits, AC circuits and networks, parallel and series DC circuits.
Ability to solve combination circuits for voltage, current, resistance and power.
Ability to troubleshoot and solve problems involving electrical circuits.

Sub-task
4.02 Applies digital logic concepts to job-related tasks.

Supporting Knowledge & Abilities

Knowledge of Kirchhoff's Law and Ohm's Law.
Knowledge of insulating or conductive properties of materials.
Ability to select circuits for given applications.
Ability to determine transformer ratios and frequencies and solve impedance matching problems.
Ability to calculate resonant frequency, bandwidth, Q and frequency response in series/parallel RLC circuits.
Ability to analyze and troubleshoot circuits and networks such as RLC circuits, AC circuits and networks, parallel and series DC circuits.
Ability to solve problems involving electrical circuits.

Sub-task
4.03 Applies networking principles.

Supporting Knowledge & Abilities

Knowledge of network topography such as LAN, WAN, MAN and cabling types.
Knowledge of network protocols.
Knowledge of network components such as hubs, switches, routers and modems.
Knowledge of Internet Protocol (IP) numbering scheme.
Ability to configure basic routers and workstations.

Task 5	**Reads and interprets prints and manuals.**

Sub-task
5.01 Interprets service and operating manuals, technical bulletins and warranties.

Supporting Knowledge & Abilities

Knowledge of types of service and operating manuals, technical bulletins and warranties.
Ability to access and interpret service and operating manuals, technical bulletins and warranties.

Sub-task
5.02 Interprets drawings and specifications.

Supporting Knowledge & Abilities

Knowledge of electrical terminology.
Knowledge of types of basic electrical, mechanical and civil drawings and diagrams and sketches.
Knowledge of types of schematics and diagrams such as block and wiring.
Ability to interpret assembly drawings, sketches and graphics.
Ability to interpret specifications, standards and codes.
Ability to interpret and trace electrical processes through schematics and diagrams.

Sub-task
5.03 Interprets diagrams, schedules and charts.

Supporting Knowledge & Abilities

Knowledge of types of diagrams, schedules and charts.
Ability to interpret diagrams, schedules and charts.

Task 6	**Plans and organizes project requirements.**

Sub-task
6.01 Identifies project requirements.

Supporting Knowledge & Abilities

Ability to assess project needs to determine material, tools and equipment and personnel requirements.
Knowledge of product availability, suppliers and pricing.
Ability to estimate time to complete tasks.
Ability to prepare a professional proposal.

Sub-task
6.02 Organizes materials and tools.

Supporting Knowledge & Abilities

Knowledge of all necessary materials, tools and equipment.
Ability to select and use required materials, tools and equipment.
Ability to calculate quantities of materials from drawings and bill of materials.
Ability to organize ordering and delivery of materials.

Sub-task
6.03 Schedules and monitors project.

Supporting Knowledge & Abilities

Knowledge of work flow, procedures and practices.
Ability to schedule work with other trades and personnel as required.
Ability to establish and maintain effective working relationships.
Ability to monitor activities and to modify or adapt work schedule as required.
Ability to monitor costs throughout project.

Task 7	**Upgrades skills and knowledge.**

Supporting Knowledge & Abilities

Ability to recognize need and access training such as technological innovations, new products and upgrades, regulations and standards.
Ability to apply new knowledge and skills.

BLOCK B INSTALLATION OF LOW VOLTAGE (50V OR LESS) SECURITY SYSTEMS

Task 8	**Installs intrusion alarm security systems and household fire warning systems.**

Sub-task
8.01 Determines requirements.

Supporting Knowledge & Abilities

Knowledge of types and applications of intrusion alarm systems and household fire warning systems such as hardwired, wireless and addressable.
Knowledge of components such as door/windows contacts, motion detectors, shock sensors, acoustic glass break sensors, environmental sensors, expansion devices, heat detectors, smoke detectors and sounding devices.
Knowledge of regulation, codes, permits and licensing requirements.
Knowledge of types of circuitry such as normally closed/opened, End of Line, and Class A and B.
Knowledge of digital dialers and dialer formats.
Knowledge of types of backup communication.
Ability to determine systems requirements.
Ability to select components for systems.
Ability to determine and select appropriate conductor, transformer, cable size and wire.

Sub-task
8.02 Performs installation of systems and components.

Supporting Knowledge & Abilities

Knowledge of installation procedures.
Knowledge of operating principles of systems.
Knowledge of wiring procedures in accordance with Canadian Electrical Code.
Ability to install wiring.
Ability to install and connect systems components according to specifications.
Ability to program systems.
Ability to hardwire power transformer into a 120vac outlet to power security system.
Ability to install mechanical protection for security cabling.
Ability to train customer in programming, operation and testing of systems.

Sub-task
8.03 Performs operational check on systems and components.

Supporting Knowledge & Abilities

Knowledge of test equipment and instruments.
Ability to perform operational check on systems and components.
Ability to complete required documentation.

Task 9	**Installs access control systems.**

Sub-task
9.01 Determines requirements.

Supporting Knowledge & Abilities

Knowledge of types and applications of access control systems such as doors, gates and turnstiles, mantraps, sally-ports and electric locking systems.
Knowledge of components such as controllers, readers, cards, codes, sensors, door strikes and magnetic door locks.
Knowledge of regulation, codes, permits and licensing requirements.
Knowledge of types of circuitry
Knowledge of server and client computers.
Knowledge of interconnection with other systems.
Knowledge of computer operating systems.
Ability to install software
Ability to determine systems requirements.
Ability to select components for systems.
Ability to determine and select appropriate conductor, transformer, cable size and wire.

Sub-task
9.02 Performs installation of systems and components.

Supporting Knowledge & Abilities

Knowledge of installation procedures.
Knowledge of operating principles of access control systems.
Knowledge of wiring procedures in accordance with Canadian Electrical Code.
Ability to install wiring.
Ability to install and connect systems components according to specifications.
Ability to program systems.
Ability to train customer in programming, operation and testing of systems.

Sub-task
9.03 Performs operational check on systems and components.

Supporting Knowledge & Abilities

Knowledge of test equipment and instruments.
Ability to perform operational check on systems and components.
Ability to complete required documentation.

Task 10	**Installs closed circuit TV/video (CCTV) systems.**

Sub-task
10.01 Determines requirements.

Supporting Knowledge & Abilities

Knowledge of types and applications of CCTV systems.
Knowledge of components such as analog and digital cameras, manual and auto iris lenses, pan/tilt/zoom controls, video cassette recorders (VCR), digital video recorders (DVR), sequential switches, quads, multiplexers and matrix switches.
Knowledge of regulation, codes, permits and licensing requirements.
Knowledge of types of circuitry.
Ability to determine systems requirements.
Ability to select components for systems.
Ability to determine and select appropriate conductor, transformer, cable size and wire.

Sub-task
10.02 Performs installation of systems and components.

Supporting Knowledge & Abilities

Knowledge of CCTV installation procedures.
Knowledge of operating principles of CCTV systems.
Knowledge of wiring procedures in accordance with Canadian Electrical Code.
Ability to install wiring.
Ability to install and connect systems components according to specifications.
Ability to program systems.
Ability to hardwire power transformer into a 120vac outlet to power CCTV system.
Ability to install mechanical protection for CCTV cabling.
Ability to train customer in programming, operation and testing of systems.

Sub-task
10.03 Performs operational check on systems and components.

Supporting Knowledge & Abilities

Knowledge of test equipment and instruments.
Ability to perform operational check on systems and components.
Ability to complete required documentation.

Task 11	**Installs monitoring systems.**

Sub-task
11.01 Determines requirements.

Supporting Knowledge & Abilities

Knowledge of types and applications of monitoring systems.
Knowledge of communication components.
Knowledge of regulation, codes, permits and licensing requirements.
Knowledge of types of circuitry.
Ability to determine systems requirements.
Ability to select components for systems.
Ability to determine and select appropriate conductor, transformer, cable size and wire.

Sub-task
11.02 Performs installation of systems and components.

Supporting Knowledge & Abilities

Knowledge of installation procedures.
Knowledge of operating principles of monitoring systems.
Knowledge of wiring procedures in accordance with Canadian Electrical Code.
Ability to install wiring.
Ability to install and connect systems components according to specifications.
Ability to program systems.
Ability to hardwire power transformer into a 120vac outlet to power security system.
Ability to install mechanical protection for security cabling.
Ability to train customer in programming, operation and testing of systems.

Sub-task
11.03 Performs operational check on systems and components.

Supporting Knowledge & Abilities

Knowledge of test equipment and instruments.
Ability to perform operational check on systems and components.
Ability to complete required documentation.

BLOCK C SERVICE, MAINTENANCE AND REPAIR OF LOW VOLTAGE (50V OR LESS) SECURITY SYSTEMS

Task 12	**Services, maintains and repairs intrusion alarm security systems and household fire warning systems.**

Sub-task
12.01 Inspects and tests systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Knowledge of test equipment and instruments and troubleshooting techniques.
Ability to inspect and test systems and components.
Ability to complete required documentation.

Sub-task
12.02 Replaces defective components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to recognize and replace defective components.
Ability to complete required documentation.

Sub-task
12.03 Repairs systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to repair systems and components.
Ability to complete required documentation.

Sub-task
12.04 Services systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to service systems and components.
Ability to complete required documentation.

Task 13	**Services, maintains and repairs access control systems.**

Sub-task
13.01 Inspects and tests systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Knowledge of test equipment and instruments and troubleshooting techniques.
Ability to inspect and test systems and components.
Ability to complete required documentation.

Sub-task
13.02 Replaces defective components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to recognize and replace defective components.
Ability to complete required documentation.

Sub-task
13.03 Repairs systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to repair systems and components.
Ability to complete required documentation.

Sub-task
13.04 Services systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to service systems and components.
Ability to complete required documentation.

Task 14	**Services, maintains and repairs closed circuit TV/video (CCTV) systems.**

Sub-task
14.01 Inspects and tests systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Knowledge of test equipment and instruments and troubleshooting techniques.
Ability to inspect and test systems and components.
Ability to complete required documentation.

Sub-task
14.02 Replaces defective components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to recognize and replace defective components.
Ability to complete required documentation.

Sub-task
14.03 Repairs systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to repair systems and components.
Ability to complete required documentation.

Sub-task
14.04 Services systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to service systems and components.
Ability to complete required documentation.

Task 15	**Services, maintains and repairs monitoring systems.**

Sub-task
15.01 Inspects and tests systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Knowledge of test equipment and instruments and troubleshooting techniques.
Ability to inspect and test systems and components.
Ability to complete required documentation.

Sub-task
15.02 Replaces defective components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to recognize and replace defective components.
Ability to complete required documentation.

Sub-task
15.03 Repairs systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to repair systems and components.
Ability to complete required documentation.

Sub-task
15.04 Services systems and components.

Supporting Knowledge & Abilities

Knowledge of systems and components.
Ability to service systems and components.
Ability to complete required documentation.

Task 16	**Reads and interprets the Canadian Electrical Code.** *(Sections 2, 10, 12, 16, 18 and Table 19)*

Sub-task
16.01 Complies with approved wiring methods and procedures.

Supporting Knowledge & Abilities

Knowledge of Canadian Electrical Code and provincial regulations.
Knowledge of American National Standards Institute (ANSI), Canadian Standards Association (CSA), Underwriters Laboratories of Canada (ULC), Electronics Industry Association/Telecommunications Industry Association (EIA/TIA) and Institute of Electrical and Electronic Engineers (IEEE) standards.
Knowledge of print reading and bill of materials.
Knowledge of structured wire systems.
Knowledge of wiring and terminating methods.
Ability to determine and select proper conductor size, type, ampacity and temperature rating for required task.
Ability to select and use electrical construction materials such as conduit fittings, wire nuts, anchors and cable trays.
Ability to terminate conductors.
Ability to wire in accordance with the Canadian Electrical Code and local codes, regulations and by-laws.
Ability to wire from wiring diagrams as well as schematics.
Ability to read and interpret Sections 2, 10, 12, 16, 18 and Table 19 of the Canadian Electrical Code.

APPENDICES

APPENDIX A TOOLS AND EQUIPMENT

The listing of these tools and equipment implies, on the part of the qualified worker, the ability to select, inspect, maintain, set up and use these devices with proficiency and safety. Alarm and Security Technicians commonly use the following tools and equipment:

Safety Gear and Personal Protective Equipment
Anti-static ground straps, anti-static mats, anti-static sprays, equipment dollies/carriers, fall-arrest and restraint systems, fire extinguishers, gloves, goggles, personal safety gear, respirator cartridge, rubber gloves, self contained breathing apparatus (SCBA), gas testers, ladder, lifting/leveling devices.

Lubricating Equipment
Lubricants, oilers, swabs.

Cleaning Equipment
Airbrushes, brushes, cleaning fluids, cloths, swabs, vacuum brushes.

Hand Tools
Alignment tools, allen keys, aviation snips, ball-peen hammer, bolt cutters, burnishing tools, cable strippers, calipers, centre-point set, channel-lock pliers, claw hammer, cold-chisel set, combination wire strippers, conduit benders, crowbar, cutters, electrician's knife, electrician's pouch, files, fish pole/tape, flashlight, fuse pullers, hacksaw, hand crimper, hex drivers, holding screwdriver, integrated chip puller, keyhole saw, knife, knockout set, level, mini torch, measuring devices, needle-nose pliers, nut drivers, pliers, rigging tools (blocks, come-alongs, handlines and pulleys), rubber mallet, screwdrivers (complete set), screw extractors, sidecutter pliers, snap-ring pliers, socket sets, tap and die set, tape measure, tin snips, wire strippers, wood chisels, wrenches (adjustable, box and open-end).

Power Tools
Angle grinder, bench-grinder/buffer, blowers, chop-saw, compressors, computerized pipe-bender, drill, drill press, electric screw/nut drivers, electric jackhammer, glue gun, ground-rod pounder, hammer-drill, heat gun, hole-saw, hydraulic pipe-bender, hydraulic knockouts, jigsaw, magnetic drill, nibbler, reciprocating saw, torches, specialty vacuum equipment (e.g. HEPA).

Soldering/De-soldering Equipment
Soldering guns, soldering irons, flux, flux removers, solder suckers, solder wicks.

Mechanical Gauges
Tension, torque, micrometer.

Technical Instruments and Testers

AC/DC digital multimeters, AC line testers/monitors, AF generators, atmosphere testers, battery testers, calculators, clip-on ammeters, computers, db/dbm meters, data recorders, dummy loads, event recorders, ground-loop detectors, hydrometers (including digital), laser power meters,

meggers, optical time domain reflectometers, oscilloscopes, power supplies, power meter light sources, protocol analysers, RF power meters, RF radiation detectors, spectrum analyzer, structured cable testers, telephone analyzers, test monitors, test speakers, time-domain reflectometers, trackers, white/pink noise generators, various audio/video/RF generators, visual fault locators, Z-meters.

APPENDIX B BLOCKS AND TASKS WEIGHTING

The Blocks and Tasks Weighting indicates the approximate number of questions assigned to each Block and Task on the provincial certification examination.

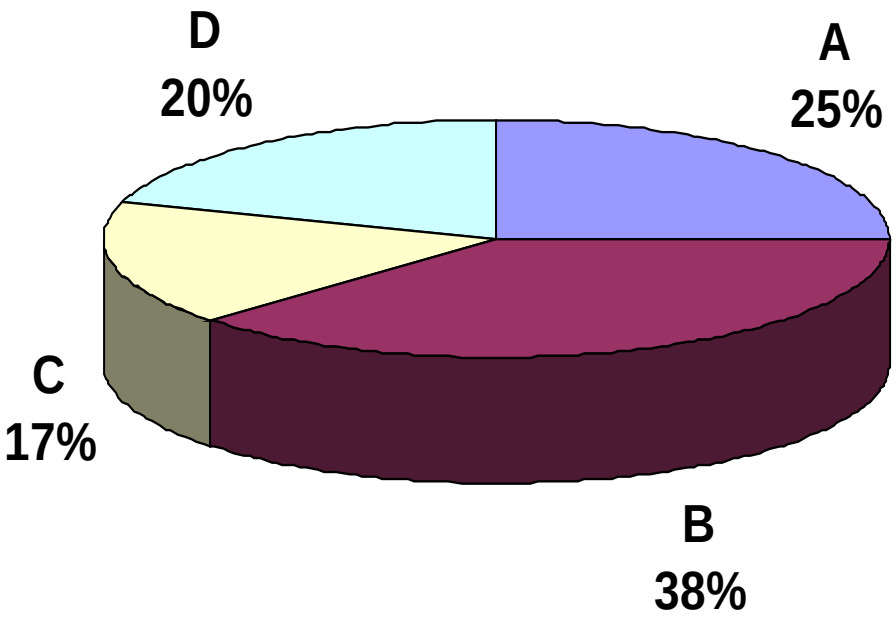
BLOCK A	BASIC WORK PRACTICES AND PROCEDURES	PERCENTAGE WEIGHTING 25%
Task 1	Participates in workplace health and safety practices.	3%
Task 2	Uses equipment, tools and instruments.	5%
Task 3	Communicates effectively on the job.	N/T*
Task 4	Uses basic electrical, electronic and digital devices and circuits.	10%
Task 5	Reads and interprets prints and manuals.	5%
Task 6	Plans and organizes project requirements.	2%
Task 7	Upgrades skills and knowledge.	N/T*

BLOCK B	INSTALLATION OF LOW VOLTAGE (5OV OR LESS) SECURITY SYSTEMS	PERCENTAGE WEIGHTING 38%
Task 8	Installs intrusion alarm security systems and household fire warning systems.	15%
Task 9	Installs access control systems.	9%
Task 10	Installs closed circuit TV/video (CCTV) systems.	8%
Task 11	Installs monitoring systems.	6%

* N/T = Not Tested (These tasks are not tested on the certification examination.)

BLOCK C	SERVICE, MAINTENANCE AND REPAIR OF LOW VOLTAGE (50V OR LESS) SECURITY SYSTEMS	PERCENTAGE WEIGHTING 17%
Task 12	Services, maintains and repairs intrusion alarm security systems and household fire warning systems.	8%
Task 13	Services, maintains and repairs access control systems.	4%
Task 14	Services, maintains and repairs closed circuit TV/video (CCTV) systems.	3%
Task 15	Services, maintains and repairs monitoring systems.	2%

BLOCK D	CANADIAN ELECTRICAL CODE	PERCENTAGE WEIGHTING 20%
Task 16	Reads and interprets the Canadian Electrical Code. *(Sections 2, 10, 12, 16, 18 and Table 19)*	20%



TITLES OF BLOCKS

BLOCK A	Basic Work Practices and Procedures	BLOCK C	Service, Maintenance and Repair of Low Voltage (50v or Less) Security Systems
BLOCK B	Installation of Low Voltage (50v or Less) Security Systems	BLOCK D	Canadian Electrical Code *(Sections 2, 10, 12, 16, 18 Table 19)*

* The Block Percentages indicate the approximate number of questions assigned to each Block on the provincial certification examination.

For example, the pie chart above demonstrates that Block A represents 25% of the exam content. If the certification exam you are writing contains 100 questions, you will have approximately 25 questions from Block A on your exam. (25% of 100 questions = 25 questions.)

APPENDIX D TASK PROFILE CHART

BLOCK A BASIC WORK PRACTICES AND PROCEDURES

Task 1 Participates in workplace health and safety practices.

Sub-task

- ☐ Demonstrates awareness of safety procedures, regulations and standards and maintains a safe work environment.
- ☐ Uses personal protective equipment (PPE) and safety equipment.

Task 2 Uses equipment, tools and instruments.

Sub-task

- ☐ Uses hand tools.
- ☐ Uses power tools.
- ☐ Uses technical instruments and testers.
- ☐ Uses soldering/de-soldering equipment.

Task 3 Communicates effectively on the job.

Sub-task

- ☐ Establishes and maintains effective communication with co-workers, customers and other professionals.
- ☐ Uses computers.
- ☐ Completes trade documentation and reports.

Task 4 Uses basic electrical, electronic and digital devices and circuits.

Sub-task

- ☐ Applies electrical and electronic concepts to job-related tasks.
- ☐ Applies digital logic concepts to job-related tasks.
- ☐ Applies networking principles.

Task 5 Reads and interprets prints and manuals.

Sub-task

- ☐ Interprets service and operating manuals, technical bulletins and warranties.
- ☐ Interprets drawings and specifications.
- ☐ Interprets diagrams, schedules and charts.

Task 6 Plans and organizes project requirements.

Sub-task

- ☐ Identifies project requirements.
- ☐ Organizes materials and tools.
- ☐ Schedules and monitors project.

Task 7 Upgrades skills and knowledge.

BLOCK B INSTALLATION OF LOW VOLTAGE (50V OR LESS) SECURITY SYSTEMS

Task 8 Installs intrusion alarm security systems and household fire warning systems.

Sub-task

- ☐ Determines requirements.
- ☐ Performs installation of intrusion alarm security systems and household fire warning systems.
- ☐ Performs operational check on systems and components.

Task 9 Installs access control systems.

Sub-task

- ☐ Determines requirements.
- ☐ Performs installation of access control systems.
- ☐ Performs operational check on systems and components.

Task 10 Installs closed circuit TV/video (CCTV) systems.

Sub-task

- ☐ Determines requirements.
- ☐ Performs installation of closed circuit TV/video (CCTV) systems.
- ☐ Performs operational check on systems and components.

Task 11 Installs monitoring systems.

Sub-task

- ☐ Determines requirements.
- ☐ Performs installation of monitoring systems.
- ☐ Performs operational check on systems and components.

BLOCK C SERVICE, MAINTENANCE AND REPAIR OF LOW VOLTAGE (50V OR LESS) SECURITY SYSTEMS

Task 12 Services, maintains and repairs intrusion alarm security systems and household fire warning systems.

Sub-task

- ☐ Inspects and tests systems and components.
- ☐ Replaces defective components.
- ☐ Repairs systems and components.
- ☐ Services systems and components.

Task 13 Services, maintains and access control systems.

Sub-task

- ☐ Inspects and tests systems and components.
- ☐ Replaces defective components.
- ☐ Repairs systems and components.
- ☐ Services systems and components.

Task 14 Services, maintains and repairs closed circuit TV/video (CCTV) systems.

Sub-task

- ☐ Inspects and tests systems and components.
- ☐ Replaces defective components.
- ☐ Repairs systems and components.
- ☐ Services systems and components.

Task 15 Services, maintains and repairs monitoring systems.

Sub-task

- ☐ Inspects and tests systems and components.
- ☐ Replaces defective components.
- ☐ Repairs systems and components.
- ☐ Services systems and components.

BLOCK D CANADIAN ELECTRICAL CODE

Task 16 Reads and interprets the Canadian Electrical Code.

Sub-task

- ☐ Complies with approved wiring methods and procedures.