



COMPETENCY STANDARD

CCTV Camera Installation and Maintenance

Level: 03

(ICT Sector)

Competency Standard Code: CS-ICT-CCTVCIM-L3-EN-V1



**National Skills Development Authority
Chief Adviser's Office
Government of the People's Republic of Bangladesh**

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National Skills Development Authority
Chief Adviser's Office
Level: 10-11, Biniyog Bhaban,
E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh.
Email: ec@nsda.gov.bd
Website: www.nstda.gov.bd.
National Skills Portal: <http://skillsportal.gov.bd>

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This Competency Standard for CCTV Camera Installation and Maintenance is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

This document has been developed by NSDA in association with ICT Sector ISC, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. "CCTV Camera Installation and Maintenance" is selected as one of the priority occupations of ICT Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills Training. Trainees who successfully pass the assessment will receive a qualification in the Bangladesh National Qualification Framework (BNQF) and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A competency standard is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in Informal Sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

Competency Standards for National Skills Certificate – Level-3 in CCTV Camera Installation and Maintenance in ICT Sector

Level Descriptors of BNQF 1-6

Level & Job Classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

List of Abbreviations

General	
NSDA	National Skills Development Authority
BMET	Bureau of Manpower Employment and Training
ILO	International Labor Organization
ISC	Industry Skills Council
NPVC	National Pre-Vocation Certificate
NSQF	National Skills Qualifications Framework
PPP	Public Private Partnership
SCVC	Standards and Curriculum Validation Committee
SEIP	Skills for Employment Investment Program
STP	Skills Training Provider
UoC	Unit of Competency
GU	Generic Unit
SU	Sector Unit
OU	Occupation Unit
Occupation Specific	
GUI	Graphical User Interface
ESD	Electro-static Discharge
ICT	Information Communication Technology (ICT)
KPI	Key Performance Indicator
LCD	Liquid Crystal Display
OSH	Occupational safety and health
PPE	Personal protective equipment
RAM	Random Access Memory
USB	Universal serial bus
CO	Computer Operation
OS	Operating System
VDU	Visual Display Unit
CD	Compact Disc
DVD	Digital Video Disc” or “Digital Versatile Disc.”
ASCII	American Standard Code for Information Interchange
CV	Curriculum Vitae
CPU	Central Processing Unit
CCTV	Closed Circuit Television

Approval of Competency Standard

Approved by
42nd Authority Meeting of NSDA
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**Competency Standards for National Skill Certificate – 3 in
CCTV Camera Installation and Maintenance in ICT Sector**

Course Structure

SL	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic Units of Competencies				20
1.	GU-04-L1-V1	Work in a Team Environment	2	20
Sector Specific Units of Competencies				65
2.	SU-ICT-01-L2-V1	Practice Occupational Safety and Health (OSH) Standard in ICT	2	15
3.	SU-ICT-05-L3-V1	Use Internet and Access Resources	3	30
4.	SU-ICT-12-L3-V1	Maintain Inventory and Participate in Professional Development Activities	3	20
Occupation Specific Units of Competencies				290
5.	OU-ICT-CCTVMI-01-L3-V1	Conduct Site Visit and Collect Requirement of CCTV System	3	30
6.	OU-ICT-CCTVMI-02-L3-V1	Set Up Electrical Wiring and Install Electrical Devices for CCTV Systems	3	40
7.	OU-ICT-CCTVMI-03-L3-V1	Install and Configure CCTV Cameras	3	80
8.	OU-ICT-CCTVMI-04-L3-V1	Install and Configure Recording and Storage Systems	3	30
9.	OU-ICT-CCTVMI-05-L3-V1	Conduct Preventive Maintenance and Troubleshooting of CCTV Systems	3	40
10.	OU-ICT-CCTVMI-06-L3-V1	Ensure Compliance with Safety and Security Standards for CCTV Systems	3	25
11.	OU-ICT-CCTVMI-07-L3-V1	Provide Customer Support and User Training for CCTV Systems	3	30
Sub-Total				360
Workplace visit				20
Total Nominal Learning Hours				380

Units & Elements at Glance

Generic Units of Competencies

Code	Unit of Competency	Elements of Competency	Duration (Hours)
GU-04-L1-V1	Work in a Team Environment	1. Define team role and scope 2. Identify individual role and responsibility 3. Participate in team discussions 4. Work as a team member	20

Sector-Specific Units of Competencies

Code	Unit of Competency	Elements of Competency	Duration (Hours)
SU-ICT-10-L2-V1	Practice Occupational Safety and Health (OSH) Standard in ICT	1. Identify hazard and risk in the ICT Environment 2. Apply Personal Health and Safety Practices 3. Manage and Report Hazards 4. Respond to Emergencies	15
OU-ICT-05-L3-V1	Use Internet and Access Resources	1. Prepare resources for sharing 2. Access Resources using the Internet 3. Use e-mail	30
SU-ICT-LSM-12-L3-V1	Maintain Inventory and Participate in Professional Development Activities	1. Maintain Inventory 2. Identify and Participate in Professional Development Activities	20

Occupation Specific Units of Competencies

Code	Unit of Competency	Elements of Competency	Duration (Hours)
OU-ICT-CCTV-01-L3-V1	Conduct Site Visit and Collect Requirement of CCTV System	1. Determine Client Requirements for CCTV Systems 2. Conduct Site Inspection and Environmental Assessment 3. Check Power and Connectivity for CCTV Systems 4. Inspect Existing Security Systems (If Applicable) 5. Ensure Compliance with Legal and Regulatory Requirements 6. Document Site Findings and Prepare Report	30
OU-ICT-CCTV-02-L3-V1	Set Up Electrical Wiring and Install Electrical Devices for CCTV Systems	1. Interpret Site Visit Report and Plan Electrical Installation 2. Install Electrical Wiring and Electrical Conduits 3. Connect Electrical Devices and Components 4. Test and Verify Electrical System Operation 5. Document Installation and Testing Results	40
OU-ICT-CCTV-03-L3-V1	Install and Configure CCTV Cameras	1. Mount and Secure CCTV Cameras 2. Connect Cameras to Power and Network 3. Configure Camera Settings and Video Parameters 4. Configure Remote Monitoring Systems 5. Set Up Mobile Surveillance Applications 6. Perform Final Testing and Adjustments	80
OU-ICT-CCTV-04-L3-V1	Install and Configure Recording and Storage Systems	1. Install Recording Devices 2. Configure Video Recording and Storage Settings 3. Test and Validate Recording Systems	30
OU-ICT-CCTV-05-L3-V1	Conduct Preventive Maintenance and Troubleshooting of CCTV Systems	1. Perform Preventive Maintenance on CCTV Systems 2. Diagnose and Resolve Common CCTV System Issues 3. Repair or Replace Faulty CCTV Components	40

OU-ICT-CCTV-06-L3-V1	Ensure Compliance with Safety and Security Standards for CCTV Systems	1. Follow Occupational Health and Safety (OHS) Practices 2. Ensure Data Security and Cybersecurity Compliance 3. Comply with Legal and Ethical Guidelines for CCTV Surveillance	25
OU-ICT-CCTV-07-L3-V1	Provide Customer Support and User Training for CCTV Systems	1. Provide Technical Support to Customers 2. Conduct User Training on CCTV System Operations 3. Handle Customer Support Needs and Service Agreements	30

Generic Units of Competencies

Unit Code and Title	GU-04-L1-V1: Work in a Team Environment
Unit Descriptor	This unit covers the knowledge, skills and attitudes (KSAs) required in working in a team environment. It includes defining team role and scope, identifying individual role and responsibility. Participating in team discussions and working as a team member.
Nominal Hours	20 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Define team role and scope	1.1. Role and objectives of the team are defined. 1.2. Team structure, responsibilities and reporting relations are identified from team discussions and other external sources.
2. Identify individual role and responsibility	2.1 Individual roles and responsibilities of <u>team members</u> are identified. 2.2 Reporting relationships among team members are defined and clarified. 2.3 Reporting relationships external to the team are defined and clarified.
3. Participate in team discussions	3.1 Ideas related to team plans are contributed. 3.2 Recommendations for improving team work are put forward.
4. Work as a team member	4.1. Effective forms of communication are used to interact with team members. 4.2. Communication channels are followed. 4.3. OHS practices are followed.
Range of Variables	
Variables	Range (may include but not limited to):
1. Sources of information	1.1 Standard Operating Procedures 1.2 Job Description 1.3 Operations Manual 1.4 Organizational Structure
2. Team Members	2.1. Coach/mentor 2.2. Supervisor/Manager 2.3. Peers/Colleagues 2.4. Employee representative
3. Workplace context	3.1 National Laws and Statutes 3.2 Standard Operating Procedures 3.3 Workplace Rules and Regulations
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 demonstrated knowledge in working in a team environment. 1.2 satisfied the requirements mentioned in the Performance Criteria and Range of Variables

2. Underpinning knowledge	2.1 Team Structure, Role and Responsibility 2.2 Individual Members' Roles and Responsibilities 2.3 Communication Flow and Reporting Structures 2.4 Team Planning 2.5 Interpersonal Communication Skills 2.6 Team Meeting Procedures 2.7 OHS Practices
3. Underpinning skills	3.1 Identifying the role and responsibility of the team 3.2 Identifying roles and responsibilities of individual members 3.3 Participating in team discussions 3.4 Working as a team member
4. Underpinning Attitudes	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace 4.6 Communication with peers and seniors in Workplace
5. Resource implications	5.1 Pens 5.2 Telephone 5.3 Computer 5.4 Writing materials 5.5 Online communication
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1. Workplace observation 6.2. Demonstration 6.3. Oral questioning 6.4. Written test 6.5. Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment center 7.2 Assessment should be done by a NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Sector-Specific Units of Competencies

Unit Code and Unit Title	SU-ICT-10-L2-V1: Practice Occupational Safety and Health (OSH) Standard in ICT.
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Practice Occupational Safety and Health (OSH) Standard in ICT. It includes identifying hazard and risk in the ICT Environment, applying Personal Health and Safety Practices, managing and Report Hazards and responding to Emergencies
Nominal Hours	15 Hours
Elements of Competency	Performance Criteria
1. Identify hazard and risk in the ICT Environment	1.1 <u>Common safety and health risks</u> specific to IT workplaces are identified. 1.2 <u>Workplace types and layout</u> and conditions are assessed for compliance with OSH standards. 1.3 Types and appropriate usage of <u>Personal Protective Equipment (PPE)</u> for IT-related tasks are identified. 1.4 <u>Hazards</u> are identified in ICT environment
2. Apply Personal Health and Safety Practices	2.1 <u>Ergonomically sound practices</u> are implemented including proper workstation setup and posture. 2.2 <u>Preventive measures</u> are taken to reduce physical and mental strain. 2.3 Cleanliness and orderliness in the workplace are maintained to reduce risks. 2.4 Personal Protective Equipment (PPE) is worn and stored properly after use. 2.5 Workplace safety conditions are inspected and issues are reported to the designated authority.
3. Manage and Report Hazards	3.1 Routine checks of the immediate work area are conducted to identify hazards and risks. 3.2 Corrective actions are taken to mitigate risks within the scope of responsibility. 3.3 Internet and social media addiction is minimized to enhance workplace focus and safety. 3.4 Detail records of incidents, hazards, and corrective actions are maintained as per workplace standard 3.5 Hazards, risks, and incidents are reported accurately and promptly to the designated authority.
4. Respond to Emergencies	4.1 <u>Emergencies</u> are identified and reported according to workplace protocols. 4.2 <u>Workplace emergency response procedures</u> are followed effectively as per organizational policy during incidents. 4.3 Basic first aid is administered or assistance is sought from qualified personnel as required.

Range of Variables	
Variable	Range (may include but not limited to):
1. Common safety and health risks	1.1 Ergonomics 1.2 Repetitive strain injuries 1.3 Eye strain 1.4 Radiation 1.5 Carpal tunnel syndrome 1.6 Electrical hazards. 1.7 Loading/ unloading
2. Workplace Type and layout	2.1 Hardware servicing labs 2.2 Software development rooms 2.3 IT Training Lab 2.4 Server room 2.5 Networking infrastructure
3. Personal Protective Equipment (PPE)	3.1 Aprons, 3.2 Earplugs 3.3 Face mask 3.4 UV-protected eye ware 3.5 Anti-static wristband 3.6 Anti-static shoes. 3.7 Gloves
4. Hazards	4.1 Physical Hazard 4.1.1 Cables running across the floor 4.2 Slippery floor 4.3 Dust 4.2 Mechanical Hazard 4.2.1 Computer case 4.3 Chemical Hazard 4.3.1 Display cleaning chemical 4.3.2 Keyboard cleaning chemical
5. Ergonomically sound practices	5.1 Using adjustable seating 5.2 Maintaining proper posture 5.3 Ensuring proper lighting.
6. Preventive measures	6.1 Regular breaks 6.2 Adequate lighting 6.3 Time management 6.4 Ergonomic furniture 6.5 Adequate ventilation
7. Emergencies	7.1 Equipment failures/malfunctions 7.2 Fires 7.3 Electrical fires 7.4 Explosions 7.5 Natural disasters.
8. Workplace emergency response procedures	8.1 First aid 8.2 Emergency treatment 8.3 Firefighting protocols 8.4 Evacuation plans
Evidence Guide	

1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Identified and mitigated OSH issues in IT workplaces. 1.2 Ensured a safe and hygienic work environment. 1.3 Reported hazards and followed emergency procedures. 1.4 Prevented and addressed social media/internet addiction. 1.5 Demonstrate the ability to identify and manage workplace hazards. 1.6 Demonstrated observance of safety procedures and ergonomic practices. 1.7 Followed emergency response procedures effectively.
2. Underpinning knowledge	2.1 OSH policies, regulations, and standards for IT workplaces. 2.2 Common hazards in IT environments 2.3 Emergency response procedures and safety protocols. 2.4 Principles of Occupational Safety and Health (OSH). 2.5 Common IT workplace hazards and associated risks 2.6 Workplace safety regulations and organizational policies
3. Underpinning skills	3.1 Safe operation and maintenance of IT equipment and tools 3.2 Practical application of ergonomic practices 3.3 Documenting incidents and communicating with relevant personnel 3.4 Effective communication of safety concerns to peers and supervisors 3.5 Ability to respond promptly to emergencies
4. Required attitudes	4.1 Commitment to maintaining a safe and healthy work environment 4.2 Proactive approach to identifying and mitigating risks 4.3 Accountability for personal and workplace safety 4.4 Cooperation and respect for peers, supervisors, and safety policies 4.5 Willingness to participate in training and continuous improvement efforts 4.6 Mindfulness to avoid workplace distractions like excessive use of social media
5. Resource implication	5.1 IT workplace setup (actual or simulated). 5.2 PPE and safety equipment. 5.3 Workplace policies and emergency response documentation.
6. Methods of Assessment	6.1 Written Test 6.2 Demonstration 6.3 Oral Questioning
7. Context of Assessment	7.1. Competency assessment must be done in NSDA accredited center. 7.2. Assessment should be done by NSDA certified/ nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code and Title	OU-ICT-05-L3-V1: Use Internet and Access Resources
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to use the internet and access resources. It specifically includes the task of preparing resources for sharing, accessing resources using the internet, and using and managing e-mail.
Nominal Hours	30 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1.Prepare resources for sharing	1.1 <u>The document</u> is scanned with the required <u>file format</u> 1.2 The file is converted using <u>file conversion tools</u> 1.3 File <u>compression tools</u> are used for compression and extraction. 1.4 Multiple PDF documents are joined (if required)
2.Access Resources using the Internet	2.1. The internet <u>browser</u> is selected and installed. 2.2. <u>Browser setting</u> is carried out for smooth operation. 2.3. Resources are accessed using <u>Search engines.</u> 2.4. Resources are preserved in local storage.
3. Use e-mail	3.1 E-mail account is created with a selected <u>e-mail service provider.</u> 3.2 <u>E-mail operations</u> are performed as required 3.3 E-mail messages are printed.
Range of Variables	
Variable	Range (may include but not limited to):
1. Document	1.1 Single Page document 1.2 Multiple-page document 1.3 Picture 1.4 Signature
2. File format	2.1. .jpeg 2.2. .png 2.3. .pdf
3. File conversion tools	3.1 Offline Tools (Default application) 3.1.1. .doc/ .docx to .pdf, 3.1.2. .xls/ .xlsx to .pdf, 3.1.3. .ppt/ .pptx to .pdf, 3.1.4. .jpg to .pdf 3.2 Offline Tools (PDF to Others) 3.2.1. PDF converter 3.2.2. PDF Editor 3.2.3. Foxit PDF Editor

	3.2.4. Adobe PDF Editor 3.3 Online Tools 3.3.1. www.ilovepdf.com 3.3.2. www.pdf2go.com 3.3.3. https://pdf2doc.com/
4. Compression tools	4.1. WinZip 4.2. WinRAR 4.3. 7zip
5. Browsers	5.1. Microsoft Edge 5.2. Google Chrome 5.3. Mozilla Firefox 5.4. Opera 5.5. Safari 5.6. Duronto browser
6. Browser setting	6.1 Bookmark 6.2 Privacy and security 6.3 Language 6.4 Download 6.5 Cookies 6.6 History
7. Search engines	7.1 google 7.2 Yahoo 7.3 Ask 7.4 MSN 7.5 Bing 7.6 Pipilika 7.7 Duckduckgo 7.8 AltaVista
8. E-mail Service Provider	8.1. Free mail services 8.1.1. Gmail 8.1.2. Yahoo
9. Email Operations	9.1. Compose 9.2. Send 9.2.1. Attachment 9.2.2. Single Recipient 9.2.3. Multiple Recipient 9.2.4. CC (Carbon Copy) 9.2.5. BCC (Blind Carbon Copy) 9.3. Receive 9.4. Reply 9.5. Forward 9.6. Delete

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent, and recent and meet all requirements of the current version of the Unit of Competency.

1.Critical Aspects of Competency	The assessment required evidence that the candidate: 1.1 Prepared resources for sharing: Scanning, converting, compressing, and merging files 1.2 Accessed resources using the Internet: Installing and configuring browsers, using search engines, and managing downloads. 1.3 Used and operated e-mail: Creating accounts, composing, sending, receiving, replying, forwarding, and printing emails.
2.Underpinning knowledge	2.1 Understanding the Internet and the World Wide Web (WWW). 2.2 Familiarity with URLs, web browsers, and websites. 2.3 Web Browsers like Chrome, Firefox, Edge, etc. 2.4 Websites 2.5 URLs 2.6 Search Engines like Google, Bing, DuckDuckGo, etc. 2.7 Effective search strategies for locating resources online 2.8 Awareness of copyright and fair use policies. 2.9 Bookmarks, privacy, cookies, and history cleaning. 2.10 History of the cleaning process. 2.11 Platforms for connecting with others and sharing information 2.12 The importance of equal access to technology and the Internet 2.13 Use of file conversion tools (offline and online) for various formats: DOC, PDF, JPG, XLS, etc. 2.14 Use of file Compressing and extracting tools like WinRAR, 7zip, or WinZip. 2.15 Managing different document types: single-page, multi-page, images, and signatures. 2.16 Creating accounts on platforms like Gmail or Yahoo. 2.17 Performing email operations (sending with CC/BCC, attaching files, replying, forwarding). 2.18 Understanding online responsibilities, including privacy, respectful communication, and data security.
3.Underpinning skills	3.1 Accessing and sharing resources from the Internet. 3.2 Downloading/uploading files, documents, and videos from/to websites. 3.3 Managing email operations with attachments, recipients, and printing 3.4 Performing responsibly and ethically online. 3.5 Respecting copyright laws and promoting safe Internet use.
4.Required attitudes	4.1 Commitment to occupational safety and health. 4.2 Promptness in carrying out activities. 4.3 Sincere and honest to duties.

	4.4 Eagerness for understanding processes related to document preparation and email management. 4.5 Environmental Concerns. 4.6 Respect for the rights of peers, subordinates, and seniors at the workplace. 4.7 Ensuring the confidentiality and reliability 4.8 Communicates clearly and effectively with peers, subordinates, and supervisors in the workplace. 4.9 Acknowledging the importance of equal access to technology. 4.10 Maintains a clean and orderly workstation. 4.11 Ensures timeliness and tidiness in daily tasks.
5.Resource implications	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Projector or interactive whiteboard for demonstrations. 5.3 Desktop or laptop computers with sufficient specifications to run Pre-installed software. 5.4 Printer (laser or inkjet) with various printing capabilities (single/both sides, odd/even pages). 5.5 USB pen drives, portable hard drives, and optical disks for file transfer practice. 5.6 Internet access for cloud-based applications like Google Docs and updates for installed software. 5.7 Adjustable chairs and desks for ergonomic typing practice. 5.8 Training manuals, Handouts, or guides detailing software use, customization, animations, and file management. 5.9 Examples/Pre-designed presentation templates for different purposes (business, educational, portfolios 5.10 Operating Systems: Windows, macOS, or Linux pre-installed on training computers. 5.11 Web Browsers: Google Chrome, Mozilla Firefox, Microsoft Edge, Opera, Safari 5.12 File Conversion Tools: Offline Tools: Microsoft Office Suite (Word, Excel, and PowerPoint with PDF export options). Adobe Acrobat or Foxit PDF Editor for PDF editing and conversion. Online Tools: Websites like ilovepdf.com, pdf2go.com, and pdf2doc.com. 5.13 Compression Tools: WinRAR, 7zip, and WinZip. 5.14 Free email service providers (e.g., Gmail, Yahoo) for hands-on training in email operations. 5.15 Search engines for practice: Google, Bing, DuckDuckGo, etc. 5.16 Training manuals covering the curriculum on email operations, file management, and internet usage.

	5.17 Short, practical video tutorials on tasks like scanning documents, compressing files, and creating emails. 5.18 Single-page and multi-page documents in various file formats (e.g., .docx, .pdf, .jpg). 5.19 Signature and image files for editing and merging exercises.
6.Methods of assessment	Methods of assessment may include but are not limited to: 6.1 Written test; 6.2 Demonstration; 6.3 Oral questioning;
7.Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA-certified/ nominated assessor
Accreditation Requirements Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code Title	SU-ICT-LSM-12-L3-V1: Maintain Inventory and Participate in Professional Development Activities
Unit Descriptor	This unit covers the competencies required to maintain inventory of spare parts and components, as well as the continuous professional development necessary to keep up-to-date with industry trends and practices.
Nominal Hours	20 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables)
1. Maintain Inventory	1.1 Inventory levels of spare parts and components are monitored and maintained using <u>inventory tools</u> . 1.2 Stock records are updated accurately to reflect inventory changes. 1.3 Orders for replenishing/restocking inventory are placed timely to avoid shortages. 1.4 Received inventory is checked against purchase orders for accuracy and quality. 1.5 Inventory storage is organized to facilitate easy access and identification. 1.6 Damaged or obsolete parts are identified and disposed of following company policies. 1.7 Reports on inventory usage and trends are prepared and analyzed for decision-making.
2. Identify and Participate in Professional Development Activities	2.1. Training opportunities for <u>professional development activities</u> relevant to servicing are identified and undertaken. 2.2. Participation in professional development activities is recorded and reported. 2.3. New skills and techniques learned from professional development activities are practiced. 2.4. Industry publications and resources are reviewed regularly to stay informed about new trends. 2.5. Feedback from <u>various sources</u> is requested and used to improve skills and knowledge. 2.6. A personal development plan is maintained and goals are set for continuous improvement.
Range of Variables	
Variable	Range (may include but not limited to):
1. Inventory Tools	1.1 Inventory management software 1.2 Spreadsheets 1.3 Barcode scanners.

2. Professional Development Activities	2.1 Training courses 2.2 Workshops, certifications 2.3 Conferences 2.4 Online courses
3. Various Sources	3.1 Supervisors 3.2 Peers 3.3 Customer reviews 3.4 Performance evaluations
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Managed inventory levels to ensure the availability of necessary parts and components. 1.2 Updated and maintained accurate stock records reflecting current inventory status. 1.3 Participated in professional development activities to keep skills current. 1.4 Applied newly acquired knowledge from training to improve repair techniques.
2. Underpinning knowledge	2.1 Principles of inventory management and control. 2.2 Specifications and applications of various components. 2.3 Available resources for professional development in the industry. 2.4 Methods for obtaining and using feedback for personal improvement.
3. Underpinning skills	3.1 Monitoring and updating inventory records regularly. 3.2 Ordering and receiving parts to maintain stock levels. 3.3 Engaging in training to enhance technical skills and knowledge. 3.4 Implementing new techniques learned from professional development in the workplace.
4. Required attitudes	4.1 Commitment to occupational safety and health. 4.2 Promptness in carrying out activities. 4.3 Sincere and honest to duties. 4.4 Eagerness to learn the document preparation process. 4.5 Tidiness and timeliness. 4.6 Environmental concerns. 4.7 Respect for the rights of peers, subordinates and seniors at the workplace. 4.8 Communication with peers, subordinates and seniors in the workplace. 4.9 Keeps a clean and orderly workplace and equipment.

5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Occupation Specific Units of Competencies

Unit Code Title	OU-ICT-CCTV-01-L3-V1: Conduct Site Visit and Collect Requirement of CCTV System
Unit Descriptor	This unit covers the skills and knowledge required to conduct a comprehensive site visit for CCTV system installation or maintenance, collect client requirements, and prepare a detailed report for supervisory review. It focuses on learning through guided actions and following instructions.
Nominal Hours	30 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables)
1. Determine Client Requirements for CCTV Systems	1.1 <u>Security concerns</u> are gathered through client interviews under supervision. 1.2 <u>Camera placement</u> and coverage are discussed with clients using provided guidelines. 1.3 <u>Client requirements</u> are identified according to the client preference. 1.4 Client preferences for <u>CCTV features</u> and <u>camera types</u> are collected using the instructor's method. 1.5 Client requirements for <u>storage and recording</u> are documented using a provided template.
2. Conduct Site and Environmental Assessment	2.1. <u>Camera</u> placement is marked based on building layouts using a provided checklist. 2.2. <u>Lighting conditions</u> for camera requirements are indicated using provided guidelines. 2.3. <u>Mounting locations</u> are checked following a guided procedure. 2.4. Distances for camera coverage are recorded using a provided measuring tool. 2.5. Outdoor locations for weatherproofing are checked following instructions.
3. Check Power and Connectivity for CCTV Systems	3.1 <u>Power sources</u> are listed using a provided template. 3.2 <u>Cabling routes</u> are drawn following provided instructions. 3.3 <u>Network infrastructure</u> details are marked using a provided checklist. 3.4 Router/switch locations are located using a provided diagram.

4. Inspect Existing Security Systems (If Applicable)	4.1 <u>Existing security system</u> details are marked using a provided checklist. 4.2 Compatibility issues are listed using provided guidelines. 4.3 Details from maintenance records are recorded following instructions.
5. Ensure Compliance with Legal and Regulatory Requirements	5.1 Compliance details are marked using a provided checklist. 5.2 Restricted areas are listed using provided guidelines. 5.3 <u>Signage requirements</u> are discussed using provided information.
6. Document Site Findings and Prepare Report	6.1 Photos and videos are taken and organized using provided instructions. 6.2 Floor plans are drawn using a provided template. 6.3 Equipment details are listed using provided guidelines. 6.4 <u>Documents and site visit reports</u> are prepared using a provided template. 6.5 Reports are handed over to the appropriate personal.
Range of Variables	
Variable	Range (may include but not limited to):
1. Security Concerns	1.1 Theft Prevention 1.2 Unauthorized Access 1.3 Employee Monitoring 1.4 Perimeter Security 1.5 Asset Protection, 1.6 Crowd Monitoring 1.7 Public Safety
2. Camera Placement	2.1 Entry Points, Exits 2.2 Hallways 2.3 Parking Lots 2.4 Elevators 2.5 Staircases 2.6 Outdoor Areas 2.7 Cash Registers 2.8 Restricted Zones 2.9 Roof top
3. Client requirements	3.1 Remote access 3.2 Power backup
4. CCTV Features	4.1 Motion Detection 4.2 Night Vision 4.3 Color vision 4.4 Zoom Capabilities

	4.5 Two-Way Audio 4.6 Facial Recognition 4.7 License Plate Recognition 4.8 Remote access 4.9 Thermal detection 4.10 AI features 4.11 Human Detection 4.12 Vehicle Detection 4.13 Resolution 4.14 Distance 4.15 Viewing angle 4.16 PoE Supported
5. Camera Types	5.1 Dome 5.2 Bullet 5.3 PTZ (Pan-Tilt-Zoom) 5.4 Thermal 5.5 Infrared (IR) 5.6 Fisheye 5.7 Covert camera 5.8 Very focal camera 5.9 Wireless 5.10 FR Camera 5.11 ANPR Camera 5.12 IP Camera
6. Storage and Recording	6.1 Storage 6.1.1 Local Storage (HDD, Surveillance grade HDD, SSD, Memory Card) 6.1.2 Cloud Storage 6.2 Recording 6.2.1 Continuous Recording 6.2.2 Motion-Triggered Recording 6.2.3 Scheduled Recording 6.2.4 Storage Retention Policies.
7. Lighting Conditions	7.1 Natural Light 7.2 Low-Light Environments 7.3 Artificial Lighting 7.4 Backlit Areas 7.5 Reflective Surfaces 7.6 High-Glare Conditions.
8. Mounting Locations	8.1 Ceiling 8.2 Wall 8.3 Pole 8.4 Rooftop 8.5 Fence 8.6 Corner Mounts

	8.7 Indoor Enclosures 8.8 Outdoor Weatherproof Casings.
9. Power Sources	9.1 AC/ DC Power 9.2 Power Over Ethernet (PoE) 9.3 Solar-Powered Systems 9.4 IPS/UPS Backup 9.5 Battery-Powered Cameras. 9.6 SMPS (Switch Mode Power Supply)
10. Cabling Routes	10.1 Underground Conduits 10.2 Wall-Mounted Conduits 10.3 Surface-Mounted Trunking
11. Network Infrastructure	11.1 Wired LAN 11.2 Wi-Fi 11.3 Mobile Network (4G/5G) 11.4 Fiber Optics 11.5 Switches 11.6 Routers 11.7 Access Points
12. Existing Security Systems	12.1 Analog CCTV 12.2 IP-Based CCTV 12.3 Storage capacity 12.4 Power backup 12.5 Access Control Systems 12.6 Alarm Systems
13. Signage Requirements	13.1 CCTV Surveillance Notices 13.2 Restricted Access Signs 13.3 Data Protection Disclaimers 13.4 Emergency Contact Details
14. Documents and site visit Reports	14.1 Site Visit Reports 14.2 Floor Plans 14.3 Equipment Checklists 14.4 Power and Network Assessments 14.5 Security Risk Assessments 14.6 Legal Compliance Documentation
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Identified and documented client security requirements accurately. 1.2 Determined optimal camera placement and coverage areas.

	1.3 Evaluated and documented power and connectivity requirements. 1.4 Identified existing system compatibility and upgrade needs. 1.5 Ensured and documented legal and regulatory compliance. 1.6 Prepared and submitted a detailed site visit report.
2. Underpinning knowledge	2.1 Principles of CCTV system design and operation. 2.2 Camera types, specifications, and installation techniques. 2.3 Network infrastructure, cabling, and power requirements. 2.4 Relevant legal and regulatory requirements. 2.5 Site survey and reporting procedures. Use of software-based diagnostic tools and calibration utilities.
3. Underpinning skills	3.1 Conducting client interviews and gathering requirements. 3.2 Performing site inspections and environmental assessments. 3.3 Evaluating and documenting power and connectivity. 3.4 Assessing and documenting existing security systems. 3.5 Ensuring and documenting legal and regulatory compliance. 3.6 Preparing and documenting site visit reports.
4. Required attitudes	4.1 Commitment to occupational health and safety when handling printer diagnostics. 4.2 Patience and precision in identifying printer faults and analyzing logs. 4.3 Sincere and honest in documenting service findings accurately. 4.4 Environmental concerns when disposing of faulty parts or ink/toner waste. 4.5 Eagerness to learn new diagnostic techniques and emerging printer technologies. 4.6 Respect for rights of peers and seniors in workplace when collaborating on troubleshooting. 4.7 Communication with peers and seniors to share diagnostic insights and solutions.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.

6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/ nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code Title	OU-ICT-CCTV-02-L3-V1: Set Up Electrical Wiring and Install Electrical Devices for CCTV Systems
Unit Descriptor	This unit covers the skills and knowledge required to install and connect electrical wiring and devices for CCTV systems, focusing on learning through guided actions and following instructions. It includes interpreting site visit reports, selecting materials, installing wiring, connecting devices, and conducting basic system testing.
Nominal Hours	40 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables)
1. Interpret Site Visit Report and Plan Electrical Installation	1.1 <u>Electrical requirements</u> are listed by reading site visit reports following instructions. 1.2 An <u>electrical installation plan</u> is drawn using a provided template. 1.3 <u>Wiring diagrams</u> are selected following provided guidelines.
2. Install Electrical Wiring and Electrical Conduits	2.1. Required <u>tools and materials</u> are gathered using a provided list. 2.2. <u>Wiring routes</u> are laid following provided instructions. 2.3. <u>Conduits</u> and cable trays are placed using provided guidelines. 2.4. <u>Wiring types</u> is selected according to the client requirement. 2.5. Wiring is pulled through conduits using provided tools. 2.6. Wiring connections are made using provided connectors and tools
3. Connect Electrical Devices and Components	3.1 Power supplies are placed following provided instructions as per proper <u>power supply placement</u>. 3.2 CCTV cameras are attached using provided guidelines. 3.3 <u>Network devices</u> are attached under supervision. 3.4 Grounding connections are made using provided tools.
4. Test and Verify Electrical System Operation	4.1 Continuity tests are performed using provided equipment. 4.2 Voltage measurements are taken following provided instructions. 4.3 CCTV system <u>functionality tests</u> are performed under supervision. 4.4 Network connectivity tests for various <u>network devices</u> are performed using appropriate tools and equipment.

5. Document Installation and Testing Results	5.1 Installation details are written using provided templates. 5.2 Test results are recorded following provided guidelines. 5.3 As-built drawings are drawn under supervision. 5.4 <u>Installation document and reports</u> are written using provided templates. 5.5 Reports are handed over to the appropriate personal.
Range of Variables	
Variable	Range (may include but not limited to):
1. Electrical Requirements	1.1 Power Supply Type (AC, DC) 1.2 Voltage Rating (12V, 24V, 110V, 220V) 1.3 Power Backup (IPS/UPS, Solar, Generator) 1.4 Load Capacity 1.5 Circuit Protection (Fuses, Breakers)
2. Electrical Installation Plan	2.1 Wiring Layout 2.2 Conduit Placement 2.3 Power Distribution 2.4 Grounding Points 2.5 Electrical Panel Location
3. Wiring Diagrams	3.1 Single-Line Diagrams 3.2 Schematic Diagrams 3.3 Ladder Diagrams 3.4 Block Diagrams 3.5 As-built Diagrams
4. Tools and Materials	4.1 Electrical Tester 4.2 Cutting Pliers 4.3 Combination Pliers 4.4 Drill machine 4.5 Hammer 4.6 Multimeter 4.7 Wire Strippers 4.8 Crimping Tools 4.9 Conduit Bender 4.10 Screwdrivers 4.11 Electrical Tape 4.12 Cable Ties 4.13 Junction Boxes 4.14 Fish Tape/GI Wire
5. Wiring Routes	5.1 Underground Conduits 5.2 Surface-Mounted Conduits 5.3 Cable Trays 5.4 Suspended Ceilings 5.5 Wall-Mounted Raceways

6. Conduits	6.1 PVC 6.2 Metal 6.3 Flexible 6.4 Rigid 6.5 HDPE 6.6 EMT (Electrical Metallic Tubing) 6.7 IMC (Intermediate Metal Conduit)
7. Wiring Types	7.1 Power Cables 7.2 Data Cables (Coaxial, UTP, Fiber Optic) 7.3 Low-Voltage Signal Cables
8. Power Supply Placement	8.1 Centralized Power Supply 8.2 Distributed Power (Individual Adapters Per Device) 8.3 PoE (Power Over Ethernet)
9. Network Devices	9.1 Ethernet Switches 9.2 PoE Injectors 9.3 Routers 9.4 Modems/GSM 9.5 Wireless Access Points
10. Tools and Equipment	10.1 Multimeter 10.2 Clamp Meter 10.3 Insulation Tester 10.4 Network Tester 10.5 CCTV Monitor 10.6 Power Analyzer
11. Functionality Tests	11.1 Continuity Tests 11.2 Voltage Checks 11.3 Insulation Resistance Tests 11.4 Network Connectivity Tests 11.5 Functional CCTV System Verification
12. Installation document and reports	12.1 Wiring Diagrams 12.2 Circuit Layout Drawings 12.3 Photo 12.4 Installation Reports 12.5 Safety Compliance Checklists 12.6 As-Built Drawings
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Developed electrical installation plans accurately. 1.2 Installed electrical wiring and conduits safely. 1.3 Connected CCTV system components reliably.

	1.4 Tested and verified electrical system operation thoroughly. 1.5 Documented installation and testing results accurately..
2. Underpinning knowledge	2.1 Principles of electrical wiring and safety. 2.2 Electrical codes and regulations. 2.3 CCTV system components and operation. 2.4 Network cabling and connectivity. 2.5 Testing procedures and equipment.
3. Underpinning skills	3.1 Interpreting technical drawings and schematics. 3.2 Using electrical tools and equipment safely and effectively. 3.3 Installing and connecting electrical wiring and devices. 3.4 Testing and verifying electrical system operation. 3.5 Documenting installation and testing results.
4. Required attitudes	4.1 Commitment to occupational health and safety when handling CCTV diagnostics. 4.2 Patience and precision in identifying printer faults and analyzing logs. 4.3 Sincere and honest in documenting service findings accurately. 4.4 Environmental concerns when disposing of faulty parts. 4.5 Eagerness to learn new diagnostic techniques and emerging CCTV technologies. 4.6 Respect for rights of peers and seniors in workplace when collaborating on troubleshooting. 4.7 Communication with peers and seniors to share diagnostic insights and solutions.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/ nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code Title	OU-ICT-CCTV-03-L3-V1: Install and Configure CCTV Cameras
Unit Descriptor	This unit focuses on physically installing, positioning, and configuring CCTV cameras, ensuring they are securely mounted, correctly connected, and set up for optimal video recording and security coverage.
Nominal Hours	80 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Mount and Secure CCTV Cameras	1.1 Mounting positions are marked and checked as per camera <u>type</u> for optimal surveillance coverage. 1.2 Camera mounting brackets and housings are installed securely according to the site plan. 1.3 Camera angles and focal lengths are adjusted for optimal viewing range. 1.4 <u>Installation hardware</u> is tightened to prevent tampering or misalignment. 1.5 <u>Cable routing paths</u> are established to avoid exposure to environmental damage considering the <u>Environmental Factors</u>.
2. Connect Cameras to Power and Network	2.1. <u>Power</u> cables, connectors and <u>Power sources</u> are installed according to system requirements. 2.2. <u>Network devices</u> are installed based on system design and layout. 2.3. <u>Network cables</u> are prepared and tested for proper data transmission. 2.4. Wireless cameras are connected and paired with the network for remote access. 2.5. Voltage levels and power supply stability are checked to ensure continuous camera operation. 2.6. Appropriate <u>surge protection methods</u> are practiced to prevent electrical damage under supervision.
3. Configure Camera Settings and Video Parameters	3.1 <u>Recording devices</u> is connected and set up with the correct recording configurations. 3.2 IP addresses, user authentication, and security settings are configured for each camera as per instruction provided by the supervisor. 3.3 <u>Video Settings</u> are optimized for storage and quality balance. 3.4 <u>Camera Features</u> are calibrated for effective monitoring. 3.5 PTZ (Pan-Tilt-Zoom) cameras are programmed with preset positions and patrol schedules.

	3.6 Privacy zones and masking areas are configured to comply with surveillance regulations.
4. Configure Remote Monitoring Systems	4.1 CCTV systems are integrated with remote monitoring platforms, enabling live video access from authorized devices. 4.2 DNS, port forwarding and cloud-based remote access solutions are configured according to client requirements. 4.3 Encryption and secure authentication methods are applied to prevent unauthorized access. 4.4 Remote access permissions and user roles are interpreted and configured to ensure data security. 4.5 Network bandwidth and latency are checked and optimized for uninterrupted remote streaming. 4.6 Cloud storage integration is configured to enable remote video retrieval and backup. 4.7 System functionality is tested through multiple remote access points to confirm seamless operation.
5. Set Up Mobile Surveillance Applications	5.1 Mobile applications for CCTV access are installed and configured on client devices. 5.2 User accounts and <u>login credentials</u> are created and tested to enable secure access. 5.3 Push notifications, motion alerts, and real-time playback features are optimized for security monitoring. 5.4 Compatibility across <u>multiple platforms</u> is tested to ensure seamless functionality. 5.5 Camera feeds are linked to mobile apps and tested for low-latency streaming. 5.6 <u>System settings</u> are optimized for mobile monitoring. 5.7 <u>Mobile security settings</u> are enabled to enhance protection.
6. Perform Final Testing and Adjustments	6.1 Video feed from each camera is checked for clarity, stability, and alignment using appropriate <u>testing methods</u>. 6.2 Recording and playback functionality are tested to confirm proper data storage. 6.3 Remote monitoring and mobile access are verified for operational efficiency. 6.4 Cameras are checked for potential blind spots or obstructions in the field of view. 6.5 Demonstration on <u>related topic</u> for client is conducted to ensure interpretation of camera functions.
Range of Variables	
Variable	Range (may include but not limited to):

1. Camera Types	1.1 Dome 1.2 Bullet 1.3 PTZ (Pan-Tilt-Zoom) 1.4 Thermal 1.5 Infrared (IR) 1.6 IP Camera 1.7 Fisheye 1.8 Covert camera 1.9 Vary focal camera 1.10 Wireless 1.11 FR Camera 1.12 ANPR Camera
2. Installation Hardware	2.1 Network cabinet / Rack 2.2 Mounting Brackets 2.3 Housing/Enclosures 2.4 Screws 2.5 Royal Bolt 2.6 Fasteners 2.7 Weatherproof Casings 2.8 TJ Box
3. Cable routing paths	3.1 Ceiling-Mounted 3.2 Wall-Mounted 3.3 Underground Conduit 3.4 Cable Trays 3.5 Surface-Mounted
4. Environmental Factors	4.1 Weather Exposure 4.2 Lighting Conditions 4.3 Vandal Resistance 4.4 Dust Protection
5. Power sources	5.1 PoE 5.2 DC power adapters 5.3 AC power 5.4 UPS/IPS 5.5 SMPS
6. Network devices	6.1 Managed/Unmanaged Network Switches 6.2 Access Points 6.3 Routers 6.4 NVR 6.5 DVR/XVR 6.6 Media Converter
7. Network cables	7.1 UTP 7.2 Fiber optics 7.3 Coaxial 7.4 Fiber Patch Cord

8. Surge Protection Methods	8.1 Grounding 8.2 Lightning Arresters 8.3 Surge Protectors 8.4 Voltage Regulators 8.5 Voltage Stabilizer
9. Recording devices	9.1 NVR (Network Video Recorder) 9.2 DVR (Digital Video Recorder) 9.3 Hybrid Recorders 9.4 XVR (Extended Video Recorder)
10. Video Settings	10.1 Frame rate (FPS) 10.2 Resolution (720p, 1080p, 4K) 10.3 Compression format (H.264, H.265) 10.4 Bit rate
11. Camera Features	11.1 Motion Detection 11.2 Night Vision 11.3 Color Vision 11.4 Zoom Capabilities 11.5 Two-Way Audio 11.6 Facial Recognition 11.7 License Plate Recognition 11.8 Remote access 11.9 Thermal detection 11.10 AI features 11.11 Human Detection 11.12 Vehicle detection
12. Login credentials	12.1 Password protection 12.2 Biometric login 12.3 Two-factor authentication 12.4 Pattern Lock
13. Multiple platforms	13.1 iOS 13.2 Android 13.3 Windows 13.4 MacOS
14. System settings	14.1 Recording Schedules 14.2 Storage Allocation
15. Mobile security settings	15.1 Multi-Factor Authentication 15.2 Encrypted Connections 15.3 Secure Logout 15.4 Remote Wipe Capabilities
16. Testing Methods	16.1 Live feed verification 16.2 Playback checks 16.3 Connectivity stress tests

17. Related topic	17.1 Basic troubleshooting 17.2 Footage retrieval 17.3 Adjusting camera angles 17.4 Managing user access
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Identified and documented client security requirements accurately. 1.2 Determined optimal camera placement and coverage areas. 1.3 Evaluated and documented power and connectivity requirements. 1.4 Identified existing system compatibility and upgrade needs. 1.5 Ensured and documented legal and regulatory compliance. 1.6 Prepared and submitted a detailed site visit report.
2. Underpinning knowledge	2.1 Principles of CCTV system design and operation. 2.2 Camera types, specifications, and installation techniques. 2.3 Network infrastructure, cabling, and power requirements. 2.4 Relevant legal and regulatory requirements. 2.5 Site survey and reporting procedures. Use of software-based diagnostic tools and calibration utilities.
3. Underpinning skills	3.1 Conducting client interviews and gathering requirements. 3.2 Performing site inspections and environmental assessments. 3.3 Evaluating and documenting power and connectivity. 3.4 Assessing and documenting existing security systems. 3.5 Ensuring and documenting legal and regulatory compliance. 3.6 Preparing and documenting site visit reports.
4. Required attitudes	4.1 Commitment to occupational health and safety when handling CCTV diagnostics. 4.2 Patience and precision in identifying printer faults and analyzing logs. 4.3 Sincere and honest in documenting service findings accurately. 4.4 Environmental concerns when disposing of faulty parts. 4.5 Eagerness to learn new diagnostic techniques and emerging CCTV technologies.

	4.6 Respect for rights of peers and seniors in workplace when collaborating on troubleshooting. 4.7 Communication with peers and seniors to share diagnostic insights and solutions.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code Title	OU-ICT-CCTV-04-L3-V1: Install and Configure Recording and Storage Systems
Unit Descriptor	This unit covers the installation, setup, and configuration of recording and storage systems used in CCTV surveillance, including DVR (Digital Video Recorder), NVR (Network Video Recorder), NAS (Network Attached Storage), and cloud storage. It ensures proper connectivity, data retention policies, and secure access for surveillance footage.
Nominal Hours	30 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Install Recording Devices	1.1 <u>Recording Devices</u> are securely mounted and positioned according to the installation plan. 1.2 Hard disks and storage media are installed and initialized for optimal recording performance. 1.3 Network and power connections are established and tested to ensure continuous operation. 1.4 Cooling and ventilation requirements are checked to prevent overheating. 1.5 UPS (Uninterruptible Power Supply) integration is configured to ensure data integrity during power outages.
2. Configure Video Recording and Storage Settings	2.1. Storage allocation and retention periods are configured based on client requirements and legal regulations. 2.2. Frame rate, resolution, and video <u>compression format</u> settings are optimized/enhanced for storage efficiency. 2.3. <u>Recording modes</u> are selected and verified. 2.4. Cloud-based <u>backup options</u> are configured to ensure remote access and off-site storage.
3. Test and Validate Recording Systems	3.1 Recording functionality is tested using live feeds and playback verification. 3.2 Storage utilization and system logs are monitored to ensure efficient performance. 3.3 Backup and restore procedures are confirmed for system reliability. 3.4 Footage export procedures are tested to ensure compliance with <u>security protocols</u>. 3.5 Customer demonstration and user training are conducted on playback and retrieval processes.
Range of Variables	

Variable	Range (may include but not limited to):
1. Recording Devices	1.1 NVR (Network Video Recorder) 1.2 DVR (Digital Video Recorder) 1.3 Hybrid Recorders 1.4 XVR (Extended Video Recorder)
2. Compression format	2.1 H.264 2.2 H.265 2.3 MPEG 2.4 AVI 2.5 MP4
3. Recording modes	3.1 Continuous 3.2 Motion-Triggered 3.3 Event-Based 3.4 Time-Lapse
4. Backup options	4.1 Scheduled Backup 4.2 Cloud Sync 4.3 External Hard Drive Backup
5. Security protocols	5.1 Password Protection 5.2 Multi-Factor Authentication (MFA) 5.3 Encryption
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Installed and configured DVR, NVR, or NAS with appropriate storage media. 1.2 Optimized recording settings and compression formats for efficient storage use. 1.3 Implemented security measures to protect video data and restrict unauthorized access. 1.4 Validated system functionality, backup procedures, and retrieval processes.
2. Underpinning knowledge	Candidate should demonstrate knowledge and understanding of: 2.1 Principles of CCTV system design and operation. 2.2 Types of recording devices and their configurations. 2.3 Video storage requirements, compression formats, and retention policies. 2.4 Cybersecurity best practices for protecting surveillance footage. 2.5 Cloud and network-based storage solutions.

3. Underpinning skills	3.1 Installing and configuring recording devices and storage systems. 3.2 Setting up and optimizing video recording settings. 3.3 Implementing user access controls and security measures. 3.4 Performing system tests, footage retrieval, and data backup procedures.
4. Required attitudes	4.1 Commitment to occupational health and safety when handling printer diagnostics. 4.2 Commitment to data security and system reliability. 4.3 Attention to detail in configuring storage and retention policies. 4.4 Professionalism in handling sensitive surveillance data. 4.5 Eagerness to learn evolving CCTV recording technologies. 4.6 Respect for rights of peers and seniors in workplace when collaborating on installing. 4.7 Communication with peers and seniors to share diagnostic insights and solutions.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code Title	OU-ICT-CCTV-05-L3-V1: Conduct Preventive Maintenance and Troubleshooting of CCTV Systems
Unit Descriptor	This unit covers regular maintenance procedures and troubleshooting techniques to ensure CCTV systems operate efficiently. It includes preventive maintenance, fault diagnosis, repairs, and system optimization to reduce downtime and enhance security reliability.
Nominal Hours	40 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Perform Preventive Maintenance on CCTV Systems	1.1 Visual inspections of <u>components for maintenance</u> units are performed to detect physical damage. 1.2 Lenses and enclosures are cleaned regularly/periodically to maintain clear image quality. 1.3 Power supplies, connectors, and network cables are checked using appropriate <u>maintenance tools</u> and secured to prevent failures. 1.4 DVR/NVR storage capacity and recording schedules are checked and adjusted as needed. 1.5 <u>Storage devices</u> are tested for proper recording and retention. 1.6 Firmware and software updates for DVR/NVR and cameras are checked and adjusted to enhance system protection. 1.7 Backup procedures are performed for configuration settings and recorded footage. 1.8 System logs and error messages are reviewed to detect irregularities in functionality.
2. Diagnose and Resolve Common CCTV System Issues	2.1. <u>Live</u> feeds, playback errors, and connectivity issues are tested and analyzed. 2.2. <u>Common issues</u> are diagnosed and corrected. 2.3. Storage and recording issues, such as overwrite failures or missing footage, are identified and resolved. 2.4. <u>Power-related issues</u> are troubleshoot and fixed. 2.5. DVR/NVR malfunctions and error logs are reviewed to detect software or hardware failures. 2.6. <u>Networking issues</u> are optimized. 2.7. Client support and troubleshooting are provided for <u>common mobile access issues</u>.
3. Repair or Replace Faulty CCTV Components	3.1 Defective cables, connectors, and power adapters are replaced following safety protocols. 3.2 Damaged cameras, DVRs/NVRs, and hard drives are diagnosed and either repaired or replaced. 3.3 Firmware resets and factory restores are performed if software-related failures persist.

	3.4 Escalation procedures are followed for unresolved technical faults that require manufacturer intervention or advanced repairs.
Range of Variables	
Variable	Range (may include but not limited to):
1. Components for maintenance	1.1 Cameras 1.2 Cables 1.3 DVR/NVR 1.4 Monitor
2. Maintenance tools	2.1 Multimeter 2.2 Network Tester 2.3 Crimping Tool 2.4 CCTV testing monitor
3. Storage devices	3.1 Hard Drives 3.2 SSD (Solid State Drive) 3.3 SD Cards 3.4 Cloud Storage
4. Common Issues	4.1 Camera misalignment 4.2 No Video Signal/ signal loss 4.3 Blurry footage 4.4 Recording Failure 4.5 Connection Loss 4.6 Motion Detection Errors 4.7 Date and Time issues
5. Power-related issues	5.1 Power surges 5.2 PoE failures
6. Networking issues	6.1 Slow transmission speed 6.2 Bandwidth limitations 6.3 DNS issues 6.4 DHCP issues 6.5 IP address conflict
7. Common mobile access issues	7.1 Login failures 7.2 Mobile app malfunctions 7.3 Connectivity disruptions.
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	

1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Performed scheduled preventive maintenance on CCTV system components including DVR/NVR, cameras, power supplies, and storage devices. 1.2 Cleaned lenses, checked cables, and secured all physical connections to maintain optimal functionality. 1.3 Reviewed system logs and error messages and performed corrective actions to restore functionality. 1.4 Identified and resolved recording, playback, and live feed issues across multiple platforms. 1.5 Diagnosed and resolved common hardware faults including signal loss, blurry images, and power failures. 1.6 Replaced defective components and cables following proper troubleshooting and safety guidelines. 1.7 Performed software and firmware updates and verified storage settings for optimal operation. 1.8 Supported users with login issues, app failures, and remote access connectivity. 1.9 Documented all maintenance and troubleshooting procedures in line with industry practices.
2. Underpinning knowledge	To demonstrate competence, the candidate must have knowledge of: 2.1 Preventive maintenance practices and standard checklists for CCTV systems. 2.2 Camera types, DVR/NVR functionalities, storage devices, and power supply requirements. 2.3 System logs, error messages, and indicators used for diagnosing technical faults. 2.4 Common causes and solutions for no video signals, poor video quality, and failed recordings. 2.5 Firmware and software update procedures and compatibility considerations. 2.6 Network fundamentals relevant to CCTV, including bandwidth, IP addressing, and remote access. 2.7 Troubleshooting tools and equipment (e.g., multimeter, LAN tester, CCTV monitor). 2.8 Escalation procedures for unresolved technical problems and manufacturer-level support. 2.9 Data backup techniques and storage configuration strategies for CCTV recordings.

	2.10 Health, safety, and security protocols during electrical repair and troubleshooting tasks.
3. Underpinning skills	The candidate must demonstrate the ability to: 3.1 Conduct systematic visual and technical inspections of CCTV systems. 3.2 Clean, secure, and calibrate physical components for optimal performance. 3.3 Use diagnostic tools to identify software, hardware, and connectivity issues. 3.4 Replace or repair faulty cables, power supplies, and recording/storage devices. 3.5 Update firmware/software and reconfigure system settings for full functionality. 3.6 Maintain and organize backup configurations and storage logs. 3.7 Communicate effectively with clients during troubleshooting and training support. 3.8 Perform troubleshooting for mobile app and remote access issues.
4. Required attitudes	The candidate must demonstrate: 4.1 Attention to detail when inspecting and maintaining CCTV components. 4.2 Willingness to maintain updated knowledge of CCTV hardware and software tools. 4.3 Commitment to maintaining system reliability with minimal downtime. 4.4 Proactive approach in detecting and addressing faults before failures occur. 4.5 Diligence in following manufacturer and workplace safety procedures. 4.6 Responsiveness in supporting clients with remote and onsite access issues. 4.7 Integrity in maintaining accurate maintenance logs and service documentation. 4.8 Collaborative mindset when escalating unresolved issues to higher authorities.

5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code Title	OU-ICT-CCTV-06-L3-V1: Ensure Compliance with Safety and Security Standards for CCTV Systems
Unit Descriptor	This unit covers adhering to safety procedures, security regulations, and legal compliance while installing, maintaining, and troubleshooting CCTV systems. It includes safe handling of electrical components, workplace safety, cybersecurity measures, and legal guidelines for surveillance operations.
Nominal Hours	25 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Follow Occupational Health and Safety (OHS) Practices	1.1 <u>Safety Equipment</u> is used when handling electronic and electrical components. 1.2 <u>Electrical safety procedures</u> are followed to prevent hazards. 1.3 Safe handling and disposal of <u>electronic waste</u> is ensured as per environmental regulations. 1.4 Workstations and installation sites are kept clean and hazard-free to prevent accidents. 1.5 Emergency protocols for <u>workplace Emergencies</u> are understood and followed.
2. Ensure Data Security and Cybersecurity Compliance	2.1. User access credentials and <u>security settings</u> are configured to prevent unauthorized access to CCTV systems. 2.2. Encryption and firewall configurations are applied to protect CCTV data from cyber threats. 2.3. Regular password updates and multi-factor authentication are enforced to enhance system security. 2.4. Logs and access records are monitored for suspicious activities and potential security breaches. 2.5. Compliance with data protection laws and regulations is ensured when storing or sharing surveillance footage.
3. Comply with Legal and Ethical Guidelines for CCTV Surveillance	3.1 <u>Relevant laws</u> on surveillance, privacy, and data retention are reviewed and followed. 3.2 Proper placement and positioning of cameras is ensured to avoid violating privacy rights. 3.3 Signage and notification procedures are implemented to inform individuals about CCTV monitoring. 3.4 Client confidentiality and ethical handling of recorded footage are maintained at all times.

	3.5 Written consent is gathered where required before installing surveillance cameras in sensitive areas
Range of Variables	
Variable	Range (may include but not limited to):
1. Safety Equipment	1.1 PPE 1.1.1 Hand Gloves 1.1.2 Face Mask 1.1.3 Goggles 1.1.4 Helmets 1.1.5 Safety Shoe 1.1.6 Safety belt 1.1.7 insulated tools 1.2 Fire Extinguishers 1.3 First Aid Kits.
2. Electrical safety procedures	2.1 Grounding 2.2 Surge protection
3. Electronic waste	3.1 Batteries 3.2 Damaged components
4. Workplace Emergencies	4.1 Fire 4.2 electrical shocks 4.3 workplace injuries 4.4 earthquake
5. Security settings	5.1 Firewall protection 5.2 Access control 5.3 Encryption methods
6. Relevant laws	6.1 Local 6.2 National 6.3 Industry-specific laws
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Used appropriate PPE and followed electrical safety practices. 1.2 Followed safe procedures for electronic waste handling and workstation management. 1.3 Responded effectively to emergency situations such as fire or electrical shocks.

	1.4 Configured user access controls and implemented cybersecurity measures. 1.5 Applied encryption and password policies to protect surveillance data. 1.6 Complied with legal and ethical guidelines related to surveillance and privacy. 1.7 Implemented proper signage and informed consent procedures where required. 1.8 Maintained confidentiality and ethical use of recorded footage.
2. Underpinning knowledge	To demonstrate competence, the candidate must have knowledge of: 2.1 Occupational health and safety (OHS) standards relevant to CCTV and electrical installations. 2.2 Types and usage of PPE, grounding methods, and surge protection techniques. 2.3 Environmental regulations and protocols for electronic waste disposal. 2.4 Emergency response procedures for electrical hazards, fire, and workplace accidents. 2.5 Common cybersecurity risks associated with CCTV systems. 2.6 Data protection laws (local, national, and international) applicable to video surveillance. 2.7 Ethical considerations in surveillance system deployment and data storage. 2.8 Legal requirements for signage, notification, and camera placement. Data backup techniques and storage configuration strategies for CCTV recordings.
3. Underpinning skills	To demonstrate competence, the candidate must be able to: 3.1 Select and use appropriate PPE and safety tools effectively. 3.2 Apply grounding and surge protection while handling electrical components. 3.3 Maintain clean and organized work areas to prevent hazards. 3.4 Implement cybersecurity protocols including access controls, firewall settings, and encryption.

	3.5 Monitor access logs and detect unauthorized system access. 3.6 Follow regulatory guidelines when placing cameras and handling video footage. 3.7 Communicate clearly with clients about legal and ethical aspects of CCTV use. 3.8 Record and document safety compliance and legal requirements effectively.
4. Required attitudes	The candidate must demonstrate: 4.1 Commitment to occupational health, safety, and personal responsibility. 4.2 Strong ethical approach in handling surveillance systems and footage. 4.3 Respect for client confidentiality and privacy rights. 4.4 Attention to detail when following legal, technical, and procedural standards. 4.5 Diligence in performing cybersecurity and access control tasks. 4.6 Willingness to stay updated on laws, safety protocols, and emerging threats. 4.7 Responsiveness in emergency situations and adherence to emergency protocols. 4.8 Accountability in documenting and reporting safety and security compliance.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code Title	OU-ICT-CCTV-07-L3-V1: Provide Customer Support and User Training for CCTV Systems
Unit Descriptor	This unit covers providing technical support, troubleshooting assistance, and customer training for effective CCTV system operation. It includes explaining system features, guiding customers on usage, addressing service requests, and ensuring customer satisfaction.
Nominal Hours	30 Hours
Elements of Competency	Performance Criteria <u>Bold & Underlined</u> terms are elaborated in the Range of Variables
1. Provide Technical Support to Customers	1.1 Customer-reported issues are identified and resolved efficiently, ensuring minimal downtime. 1.2 Remote and on-site assistance is provided to diagnose and resolve user-reported issues based on the nature. 1.3 <u>Common errors</u> are diagnosed and fixed. 1.4 Service requests are documented, and unresolved issues are reported to senior technicians or manufacturers. 1.5 Follow-up support is provided to ensure that resolved issues do not reoccur.
2. Conduct User Training on CCTV System Operations	2.1. End-users are trained on <u>basic system operation</u> using appropriate <u>training tools</u>. 2.2. Proper use of <u>remote access tools</u> is demonstrated to customers. 2.3. Password management, access control, and footage retention policies are shared with users. 2.4. Training tools are provided for future reference. 2.5. Feedback from trainees is collected to improve training sessions.
3. Handle Customer Support Needs and Service Agreements	3.1 Customer concerns and service requests are addressed professionally and efficiently. 3.2 Warranty terms, service agreements, and maintenance contracts are explained clearly to clients. 3.3 Recommendations for system upgrades and additional security solutions are provided based on customer needs. 3.4 Customer satisfaction surveys and feedback forms are used to improve service quality.

	3.5 Proactive follow-up is conducted to ensure continued customer satisfaction and retention.
Range of Variables	
Variable	Range (may include but not limited to):
1. Common errors	1.1 Connectivity Failures 1.2 Video Quality Issues 1.3 Playback Problems
2. Basic system operation.	2.1 Live Viewing 2.2 Playback 2.3 Backup Procedures
3. Training tools	3.1 User manuals 3.2 Online Training 3.3 Video tutorials 3.4 Hands-on demonstrations
4. Remote access tools	4.1 Remote Access Features 4.2 Mobile Apps 4.3 Cloud Storage
Evidence Guide The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Responded promptly and professionally to customer service requests and technical issues. 1.2 Diagnosed and resolved common CCTV system errors such as connectivity failures and playback issues. 1.3 Provided remote and on-site technical support tailored to user needs. 1.4 Conducted clear and effective user training on system operations, including live viewing and backups. 1.5 Explained the use of mobile apps, remote access, and cloud storage in simple terms to clients. 1.6 Shared security practices such as password updates and access management during training. 1.7 Documented service interactions and referred unresolved issues to appropriate personnel.

	1.8 Collected and used client feedback to enhance support quality and service offerings.
2. Underpinning knowledge	To demonstrate competence, the candidate must have knowledge of: 2.1 Basic operation and components of CCTV systems (live view, playback, backups). 2.2 Common technical issues affecting CCTV systems (e.g., network, power, hardware). 2.3 Remote access tools including mobile applications and cloud-based solutions. 2.4 Customer service principles and effective communication strategies. 2.5 Security and privacy best practices (e.g., password management, data retention). 2.6 Service documentation procedures and escalation protocols. 2.7 Features and terms of service agreements, warranties, and maintenance contracts. 2.8 Tools and techniques for delivering user training and measuring user satisfaction.
3. Underpinning skills	To demonstrate competence, the candidate must be able to: 3.1 Communicate clearly with clients to identify and address their technical concerns. 3.2 Provide step-by-step instructions on CCTV operations to users with different levels of technical knowledge. 3.3 Troubleshoot and resolve system issues using both remote and on-site methods. 3.4 Use and explain mobile apps, remote login platforms, and cloud storage tools. 3.5 Apply customer service etiquette in handling complaints and inquiries. 3.6 Document technical issues, service reports, and customer interactions accurately. 3.7 Deliver training using a variety of formats including live demos, tutorials, and guides.

4. Required attitudes	The candidate must demonstrate: 4.1 Patience and empathy when assisting customers with technical issues. 4.2 Willingness to explain complex systems in simple, user-friendly language. 4.3 Professionalism and courtesy in all customer interactions. 4.4 A proactive attitude toward solving problems and preventing future issues. 4.5 Commitment to maintaining customer satisfaction and trust. 4.6 Eagerness to improve service delivery based on feedback. 4.7 Respect for client confidentiality and data security.
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated). 5.2 Tools, equipment and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio
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Development of Competency Standard

The Competency Standards for National Skills Certificate in CCTV Installation and Maintenance, Level-3 is developed by NSDA on 18-20 March 2025.

List of Members

S/N	Name and Address	Position in the committee	Signature and Date
1.	Md. Saiful Islam Saif Assistant Engineer, PC House Mobile: 01828794485 Email: freebird.saif@gmail.com	Member	
2.	Sheikh Nazmul Islam Rony CCTV Technician, Kazi Trade Mobile: 01998207268 Email: nazmulislamrony563@gmail.com	Member	
3.	Mohammad Iqbal Hossen Manik Engineer, Vit Solution Mobile: 01633666644 Email: Wesomeeee@gmail.com	Member	
4.	Tutul Chandra Mujumdar CCTV Technician, Task Technology Mobile: 01878939767 Email: tutulworld@gmail.com	Member	
5.	Md. Giash Uddin Howlader Chief Engineer-Circuit Specialist, Newtec Technology Email: giashsmart@gmail.com Mobile: 01720037200	Member	
6.	Muhammad Harun Ar Rashid Assistant Engineer, Instinct Technologies Mobile: 01767253510 Email: harunr2030@gmail.com	Member	
7.	Md. Saiful Islam Senior Engineer, Newtech Technology Mobile: 01720211430 Email: saiful_kawser@yahoo.com	Member	
8.	Md. Anisuzzaman, Instructor (Computer), Rajshahi TTC, Email: mazaman84@gmail.com , Mobile: 01714422225	Member	
9.	Md. Saif Uddin, Junior Assessment Consultant, National Skills Development Authority, Email: engrbd.saif@gmail.com , Mobile: 01723004419.	Member	

Validation of Competency Standard

The Competency Standards for National Skills Certificate in **CCTV Installation and Maintenance, Level-3** is validated by NSDA on 9 April 2025.

Members of the SCVC

S/N	Name and Address	Position in the committee	Signature and Date
1.	Shafquat Haider, Chairman, ICT ISC, ciproco@bol-online.com , shafquat.haider@gmail.com, Mobile No. 01711532597	Chairperson	
2.	Pronay kumar mondal Manager, RS Technology Mobile: 01719926396 Email: pronaymondal41@gmail.com	Member	
3.	Md Fayej Mia Engineer, Sentry security services ltd Mobile: 01688941233 Email: mfayej1@gmail.com	Member	
4.	MD. Giash Uddin Howlader Chief Engineer-Circuit Specialist, Newtec Technology, Mobile: 01720-037200 Email: giashsmart@gmail.com	Member	
5.	Md Imran Hossen Proprietor, Expert Computer Mobile: 01683216095 Email: mdimranhossain.vip@gmail.com	Member	
6.	Md. Rasel Mia Proprietor, Noor Computer. Mobile: 01711873008 Email: email@aliasgorpavel.com	Member	
7.	Md. Saiful Islam Senior Engineer, Newtech Technology Mobile: 01720211430 Email: saiful_kawser@yahoo.com	Member	
8.	Md. Saif Uddin, Junior Assessment Consultant, National Skills Development Authority, Email: engrbd.saif@gmail.com , Mobile: 01723004419.	Member	

Workshop Minutes

Government of the People's Republic of Bangladesh
Chief Adviser's Office
National Skills Development Authority
Level: 10-11, Biniyog Bhaban,
E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh.
Email: ec@nsda.gov.bd
Website: www.nsda.gov.bd.

Minutes of the Competency Standard Review and Validation Workshop on “CCTV Camera Installation and Maintenance, Level 3” Occupation.

Chairman	: Shafquat Haider
Date	: 9 April 2025
Time	: 9:00am - 5:00 pm
Place	: ISC Conference Room, NSDA, Biniyog Bhaban, Agargaon, Dhaka-1207

The Chairman welcomed all those present and started the work of the workshop. During the day-long workshop, the competency standard of CCTV Camera Installation and Maintenance, Level 3 occupation was reviewed and finalized in detail. The activities related to the finalized standard through review and validation workshop are presented below:

Serial No.	Content of validation	Whether it was appropriate		What actions have been taken if not appropriate?
		Yes	No.	
1.	Name and level of occupation	yes		
2.	Nominal Hour	yes		
3.	Unit of Competency	yes		
4.	Element		No.	Proper refinement of required elements has been achieved by keeping consistent elements.
5.	Performance Criteria		No.	Necessary refinement of performance criteria has been achieved.
6.	Variables		No.	Appropriate addition, modification and refinement of variables has been done keeping in view the performance criteria.
7.	Critical Aspect of Competence		No.	Appropriate changes have been made in the critical aspect of competency as per the change of units.
8.	Underpinning knowledge		No.	Necessary addition, changings and refinements have been made.
9.	Underpinning Skills		No.	Necessary added, changes and refinements have been made.
10.	Attitude	Yes		
11.	Resources	Yes		

12.	Assessment methods	Yes		
13.	Others			▪ The nominal hours of the units of competencies have been readjusted for content consideration. ▪ Overall, the occupation has been included in Level-3 according to BNQF 1-6.

Through the above activities, the Competency Standard has been reviewed, finalized and validated as “**CCTV Camera Installation and Maintenance, Level 3**”.

Chairman
Committee on Standard and
Curriculum Validation,
Chairman - ICT ISC