

WORK-STUDY DIPLOMA IN SECURITY SYSTEMS ENGINEERING

MODULE OBJECTIVES

Core Modules

Principles of Security Systems and Operations

On completion of this module, trainees should be able to establish approach for physical security design and requirements of security systems as well as comply with code of ethics for security professionals. They should also be able to explain the concepts and methodologies of assets protection as well as key functions and foundational principles for security systems and operations.

Computer Networking I

On completion of this module, trainees should be able to set up and configure wired and wireless Local Area Network (LAN). They should also be able to explain networking terminologies, concepts and technologies.

Computer Networking II

On completion of this module, trainees should be able to set up and configure Wide Area Network (WAN) and Internet of Things (IoT) communication. They should also be able to troubleshoot network connectivity issues as well as monitor and administer a network.

Server and Storage Management

On completion of this module, trainees should be able to set up, configure and troubleshoot server and storage systems in a systematic manner.

Video Surveillance Technology and System I

On completion of this module, trainees should be able to set up, configure, test and troubleshoot standalone video surveillance systems. They should also be able to explain video surveillance terminologies and concepts.

Video Surveillance Technology and System II

On completion of this module, trainees should be able to set up, configure, test and troubleshoot video management systems and video analytics.

Workplace Safety and Health for Security Sector

On completion of this module, trainees should be able to identify workplace hazards and practice as well as proper usage of personal protective equipment (PPE). They should also be able to conduct workplace risk and environmental management to ensure a safe workplace.

Access Control Technology and System I

On completion of this module, trainees should be able to set up, configure, test and troubleshoot standalone access control systems. They should also be able to explain access control terminologies and concepts.

Access Control Technology and System II

On completion of this module, trainees should be able to set up, configure, test and troubleshoot multi-biometric access control management and mobile access control systems.

Intrusion Detection Technology and System I

On completion of this module, trainees should be able to set up, configure, test and troubleshoot intrusion detection systems. They should also be able to explain intrusion detection terminologies and concepts.

Intrusion Detection Technology and System II

On completion of this module, trainees should be able to set up, configure, test and troubleshoot perimeter intrusion detection and central alarm monitoring systems.

System and Device Security

On completion of this module, trainees should be able to configure, test and troubleshoot security solutions at host and device level. They should also be able to explain security threats and vulnerabilities, and technologies and tools used in implementing effective security solutions, at host and device level.

Electrical Services

On completion of this module, trainees should be able to plan electrical requirements and conduct checks on electrical installation works complying with relevant local standards, regulations and codes of practice.

CAD and Productivity Applications

On completion of this module, trainees should be able to produce various types of business documents and technical drawings using software packages such as AutoCAD and Microsoft Office.

Project Management and Supervision

On completion of this module, trainees should be able to plan, execute and monitor security system project using the various project management tools and techniques to meet the project scope, schedule and cost requirements. They should also be able to apply effective supervisory skills to supervise a project team.

TVRA and Security Operations

On completion of this module, trainees should be able to conduct security risk assessment and system audit. They should also be able to identify security gaps, propose improvements and assess security operation requirements.

Company Project

On completion of the module, trainees should be able to apply and integrate skills and knowledge acquired throughout the course to a specific problem or issue related to security systems engineering.

Computer Programming and Integration for IoT

On completion of this module, trainees should be able to write programs to integrate devices into security systems by applying programming concepts and languages.

Technical Writing and Communication

On completion of this module, trainees should be able to prepare and write technical reports, and deliver a presentation effectively. They should also be able to apply the communication skills essential to build successful working relationships in business and workplace settings.

On-The-Job Training I

On completion of this module, trainees should be able to apply and integrate the first-year skills and knowledge that they have acquired at ITE College and develop competencies at the workplace.

On-The-Job Training II

On completion of this module, trainees should be able to apply and integrate the secondyear skills and knowledge that they have acquired at ITE College and develop competencies at the workplace.

On-The-Job Training III

On completion of this module, trainees should be able to apply and integrate the thirdyear skills and knowledge that they have acquired at ITE College and develop competencies at the workplace.

OJT LIST OF COMPETENCIES

Course Title: Security Systems Engineering

Level: Work-Study Diploma

	Standard Tasks	Company to indicate '✓' it is able to provide
Design and manage security system projects		
1	Conduct site survey and risk assessment	
2	Evaluate project requirements	
3	Propose security system solution	
4	Prepare project proposal and technical drawings / documents	
5	Implement integrated security solution	
6	Supervise project activities and resources	
7	Configure and test integrated security system	
8	Conduct system handover	
9	Conduct user training	
Manage installation and upgrading of security systems		
10	Practice safety precautions	
11	Plan work schedule and resources	
12	Supervise installation works	
13	Perform data backup and restore for security systems	
14	Configure and test security systems	
15	Commission and hand over security systems	
16	Update service reports / work schedule documents	
Manage preventive and corrective maintenance on security systems		
17	Plan maintenance work schedule and resources	
18	Supervise maintenance works	
19	Troubleshoot security systems	
20	Perform corrective actions	
21	Update maintenance reports	
Set up network infrastructure to support security systems		
22	Set up and configure a wired / wireless network	
23	Configure network security features	
24	Troubleshoot network connectivity issues	
25	Configure servers and storage system for security systems	
26	Perform servers hardening	
Provide security operations management support		
27	Prepare for security system audit	
28	Implement improvement / corrective actions	
29	Assess security operations requirements	
30	Monitor security operations and incidents	