

ICT SECURITY THREATS

UNIT CODE: IT/CU/ICT/CR/3/6

Relationship to Occupational Standards

This unit addresses the unit of competency: **CONTROL ICT SECURITY THREATS**

Duration of Unit:200hours

Unit Description

This unit specifies competencies required to control ICT security threats. It involves identification of security threats, establishing and installing security measures, deployment of security measures, system vulnerability testing and monitoring.

Summary of Learning Outcomes

1. Identify security threats
2. Establish and Install security measures
3. Deploy security measures
4. Test system vulnerability
5. Monitor security system

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Identify security threats	<ul style="list-style-type: none">□ Definition of security threats□ Categories of security threats<ul style="list-style-type: none">✓ Internal✓ external□ Importance of Computer Security to an Organization□ Identification of Common threats<ul style="list-style-type: none">✓ Fraud and theft✓ Employee sabotage✓ Loss of physical and infrastructure support✓ Malicious hackers and code✓ Industrial espionage✓ Threats to personal privacy	<ul style="list-style-type: none">• Practical• Oral questioning• Written tests

	<ul style="list-style-type: none"> ✓ Natural Calamities ✓ Cyber crime □ Constraints to computer security <ul style="list-style-type: none"> ✓ Cost ✓ User responsibility ✓ Integration challenges ✓ Inadequate Assessment 	
2. Establish and Install security measures	<ul style="list-style-type: none"> □ Definition of security risk management □ Benefits of Risk management □ Risk management procedures <ul style="list-style-type: none"> ✓ Risk assessment ✓ Risk mitigation Uncertainty analysis ✓ interdependencies ✓ cost considerations □ Benefits of security measures □ Types of Security measures <ul style="list-style-type: none"> ✓ Firewalls ✓ User accounts control ✓ Security policies ✓ Antivirus ✓ Encryption ✓ Secure Socket Layer protocol (SSL) ✓ Multi-factor authentication ✓ Malware detection ✓ Site monitoring ✓ Daily or weekly backups □ Application of security measures 	<ul style="list-style-type: none"> • Written tests • Observation • Report writing • Practical
3. Deploy security measures	<ul style="list-style-type: none"> □ Implement security measures contained in the ICT security policy □ Apply physical and logical risk mitigation measures □ Take corrective action 	<ul style="list-style-type: none"> • Practical • Oral questioning • Short tests to assess underpinning knowledge.

	<ul style="list-style-type: none"> ❑ Security audit to identify security gaps ❑ Generate system audit report 	
4. Test system vulnerability	<ul style="list-style-type: none"> ❑ Definition of vulnerability ❑ System testing schedule ❑ Levels of system vulnerability ❑ Ethical penetration ❑ System vulnerability test report 	<ul style="list-style-type: none"> • Practical exercises • Oral questioning
5. Monitor security system	<ul style="list-style-type: none"> ❑ Define monitoring criteria ❑ Evaluation of system security performance based on defined criteria ❑ updating and overhauling of Security systems ❑ Generate monitoring report 	<ul style="list-style-type: none"> • Practical exercises • Oral questioning • Short tests to assess underpinned knowledge.

Suggested Methods of Delivery

- Presentations and practical demonstrations by trainer;
- Guided learner activities and research to develop underpinning knowledge;
- Supervised activities and projects in a workshop;

The delivery may also be supplemented and enhanced by the following, if the opportunity allows:

- Visiting lecturer/trainer from the ICT sector;
- Industrial visits.

Recommended Resources

Tools

1. Monitoring tools
2. CCTV
3. Maintenance tools
4. firewalls
5. antivirus
6. anti-spy ware
7. password management software

Equipment

screw driver

sensors

cctv

Computer

Materials and supplies

- Digital instructional material including DVDs and CDs

Reference materials

Manufacturers manuals

easytvvet.com