

1. Module details

Module name Security Systems 2

Suggested structured learning time 40 hours

Module code NUE 483

Discipline code 0703225 Electrotechnology

2. Module purpose

This module aims to provide the student with further skills in the selection and installation of security equipment. On completion of this module the student will be able to describe the operation of security systems and select appropriate security equipment.

3. Prerequisite modules

NUE480 Security Systems 1

NUE017 Building Structures

4. Relationship to competency standards

This module provides some of the skills and knowledge underpinning competence in the following standard.

National Electrotechnology Industry Standards, specifically NES 105i and NES 209.

5. Content

Regulations applicable to the security industry

Design a domestic security system

Security panels

Communication systems

Closed circuit television, CCTV overview.

Locking devices

Car alarms

Lighting

6 Assessment strategy

Assessment methods

Questioning

Written tests, problem solving and assignments

Practical tests and written reports.

Conditions of assessment	Normally learning and assessment will take place in a classroom or laboratory environment. Where possible, an industrial visit to a security wholesaler or security company should be arranged.
7 Learning outcome details	Define the completion of this module the learning will be able to be competent in the following learning outcomes.
Learning outcome 1	Define the regulations applicable to the security industry.
Assessment criteria	<p>1.1 Security Act</p> <p>1.2 Occupational Health and Safety Act</p> <p>1.3 Australian Standards AS2630, AS2201</p> <p>1.4 Austel Standards</p>
Learning outcome 2	Design a domestic security system.
Assessment criteria	<p>2.1 Design a security stem around given parameters</p> <p>2.2 Describe the components used.</p>
Learning outcome 3	Describe various types of security panel used in an installation.
Assessment criteria	<p>3.1 Explain the features of commonly used panels.</p> <p>3.2 Explain the operation and programmable and non-programmable panels.</p> <p>3.3 Compare the advantages and disadvantages of a range of sound sources used with security alarms.</p> <p>3.4 Compare a range of power sources used with security systems.</p> <p>3.5 Define a range of codes used with security alarm installations.</p>
Learning outcome 4	Describe various panel communications systems.
Assessment criteria	<p>4.1 Discuss a range of panel to base communication systems.</p>

	4.2	Explain the operation of a range of communication systems including the following. <ul style="list-style-type: none">• Dialler sequence• SESCOA dialling system• Dual tone multi frequency• Ademco high speed• Admeco contact ID
	4.3	Explain up/down loading.
	4.4	Define base stations.
Learning outcome 5		Discuss the application of closed circuit television in the security industry.
Assessment criteria	5.1	Show the application of CCTV to different sized sites.
	5.2	Compare different types of cameras and monitors used.
	5.3	Identify the types of synchronising control used.
	5.4	Compare the types of cables used with CCTV.
	5.5	Explain the importance of lighting and the methods used for CCTV.
	5.6	Describe switching methods used with CCTV.
	5.7	Explain the importance of earthing in a CCTV system.
Learning outcome 6		Discuss the importance of locking devices.
Assessment criteria	6.1	Define a range of locks commonly used in the security industry.
Learning outcome 7		Discuss the principles operation of car alarms

<p>Assessment criteria</p>	<p>7.1 Explain the following features of car security systems.</p> <ul style="list-style-type: none"> • Two stage • Light/sound indication • Central locking • Power cut out • Current sense • Bonnet/boot switches • Ultra sonic detection • Battery backup
<p>Learning outcome 8</p>	<p>Explain the importance of lighting in the security industry.</p>
<p>Assessment criteria</p>	<p>8.1 Explain the applications for security lighting.</p> <p>8.2 Define types and installation methods for a range of lighting.</p> <p>8.3 Define the terms used with lighting.</p>
<p>8 Delivery of the module</p> <p>Delivery strategy</p>	<p>The delivery strategy must be suitable for both theoretical and or practical learning and module purpose.</p> <p>It is recommended that learning assessment be facilitated in a holistic manner which may require a learning outcome sequence other than indicated in the body of this module.</p> <p>Also an integrated theory/practice approach should be used where student learn by experimentation and through research and laboratory reports</p>
<p>Recommended resource requirements</p>	<p>Minimum teacher qualifications:</p> <p>Certificate IV Assessment & Workplace Training</p> <p>Trade qualifications in the electrical/electronic discipline and a demonstrated high level of competency in security installations. This would normally be achieved by relevant workplace experience in this field.</p> <p>Other human resources:</p> <p>Stores/laboratory assistant</p>

Non human resources:

A range of experimental circuit components and measuring equipment and practical equipment. Resources should be sufficient for students to carry out experiments on an individual basis.

Trade pamphlets.

Trade information documents.

Appropriate texts.

User Guides

Where this module is used in an approved Traineeship or Apprenticeship program students should be advised to obtain, where available, respective EEQSBA¹ *User Guides* (these outline in detail what training and work performance the student is required to undertake for the program).

References

Australian Standards 2630 -1983, Standards Australia.

Australian Standards 2201-1998, Standards Australia.

ACA Communications Cabling Manual (CCM), Standards Australia.

CCTV Surveillance, Herman Kruegle. Butterworth-Heinemann.

Security “A Guide”, Neil Cumming. Butterworth-Heinemann.

Manufacturers Handbooks for system used in laboratory.

Manufacturers installation guides for system used in laboratory.

Various security panels sourced locally.

Various PIR's, reed switches, door switches, keypads, glass break detectors, wireless devices and other security system perennials.

Occupational health and safety requirements

A safe and healthy environment will be provided for students in regards to classroom and laboratory safety.

¹ EEQSBA - ElectroComms and EnergyUtilities Qualifications Standards Body of Australia Ltd