

1 Module Details	
Module Name	Security Systems 2
Nominal duration	One module. It is anticipated that a student holding the prescribed entry skills will achieve the module purpose in 36 to 40 hours.
Module code	NUE483
Discipline code	0703230
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 Prerequisites	Security Systems 1 (NUE480)
4 Relationship to competency standards	This module provides some of the skills and knowledge underpinning competence in the following standards. Electrical Contracting Industry Awards Standards, Electronic Stream Unit 5.1
5 Content	<ol style="list-style-type: none"> 1. Regulations applicable to the security industry 2. Design a domestic security system 3. Building construction 4. Security panels 5. Communication systems 6. Closed Circuit Television, CCTV – overview 7. Locking devices <ul style="list-style-type: none"> • Install mechanical lock / locking system • Identify and diagnose mechanical locking system fault • Maintain mechanical lock / locking system 8. Lighting 9. Correct selection and use of hand and power tools 10. Plan and schedule installation <ul style="list-style-type: none"> • Respond to customer inquiry • Specify security system configuration • Provide estimate and quote • Prepare detailed tender • Coordinate installation • Organise and manage projects and services 11. Commission small security system <ul style="list-style-type: none"> • Install security equipment and system • Decommission security equipment / system • Determine security equipment / system modifications • Modify security equipment / system • Remove security equipment / system • Establish and set up monitoring parameters • Implement monitoring procedures 12. Maintain security system

	<ul style="list-style-type: none"> • Identify and diagnose electronic security system fault • Maintain and service equipment • Repair security equipment / system • Maintain security equipment / system • Plan and schedule routine maintenance, repairs and modifications
6 Assessment strategy	
Assessment methods	Questioning/ Written tests/problem solving/assignments. Practical tests/written reports.
Conditions of assessment	Normally learning and assessment will take place in a classroom/laboratory environment.
7 Learning Outcome Details	On the completion of this module the learner will be able to:
Learning Outcome 1	Define the regulations applicable to the security industry.
Assessment criteria	<p>1.1 Demonstrate a working knowledge of the essential elements of the Security Act and Regulations (N.S.W.) or equivalent, as applicable to the security installer.</p> <p>1.2 Describe the essential framework of the Occupational Health and Safety Act (N.S.W.) or equivalent and the relationship between that Legislation and the Work Cover organisation in the same State.</p> <p>1.3 Demonstrate a working knowledge of the essential elements of the Australian Standard AS2630</p> <p>1.4 Locate, on demand, reference to a particular topic in AS2630.</p> <p>1.5 Show how an alarm system or the components therein comply with the standards as described in AS2201, parts 1 to part 5 inclusive. This would include a comparison between manufacturers specifications and the requirements as outlined in the relevant part of AS2201.</p> <p>1.6 Explain the requirements for PSTN (Public Switched Telephone Network) wiring installations and modifications to same, for industry trades persons as specified in the Australian Communication Act (Austel Standards).</p> <p>1.7 Select CCL (Certified Components List) listed equipment in accordance with Technical Standard (Customer Equipment and Customer Cabling) – ACA TS 101 – 1998.</p>

Learning Outcome 2	Design a domestic and / or light industrial security system.
Assessment criteria	<p>2.1 Assess the security risks of the premises, taking into account the location and the nature of work or holding at the premises.</p> <p>2.2 Design a security system around given parameters.</p> <p>2.3 Provide a schedule of components and an estimate of cost with some cost saving offsets as options for the building owner.</p> <p>2.4 Describe the components used.</p>
Learning Outcome 3	Describe various building structures as they apply to the security installation.
Assessment criteria	<p>3.1 Explain the construction of the following types of domestic and light industrial buildings with an emphasis to an electronic security installation:</p> <ul style="list-style-type: none">• Timber frame• Brick veneer• Full brick• Stand up reinforced slab• Rolled steel joist and steel cladding• Portable buildings <p>3.2 Describe roofing types, as they apply to the security installation.</p> <p>3.3 Describe window types, as they apply to the security installation.</p> <p>3.4 Identify common entry points to buildings as part of a risk assessment and show examples of how the risk may be reduced.</p>
Learning Outcome 4	Describe various types of security panel used in an installation.
Assessment criteria	<p>4.1 Explain the features of commonly used panels.</p> <p>4.2 Explain the operation of programmable and non-programmable panels.</p> <p>4.3 Program a commercial security panel to given parameters</p> <p>4.4 Compare the advantages/disadvantages of a range of sound sources used with security alarms</p> <p>4.5 Compare a range of power sources used with security systems.</p>

Learning Outcome 5	Describe various panel communication systems.
Assessment criteria	<p>5.1 Discuss a range of panel to base communication systems.</p> <p>5.2 Define a range of codes used with security alarm installations</p> <p>5.3 Explain the operation of a range of communication systems including:</p> <ul style="list-style-type: none">• Dialler sequence• Sescoa dialling system• Dual Tone Multi Frequency• Ademco High Speed• Ademco contact ID <p>5.4 Explain Up/Down loading.</p> <p>5.5 Define base stations.</p>
Learning Outcome 6	Discuss the application of Closed Circuit Television in the security industry.
Assessment criteria	<p>6.1 Show the application of CCTV to different size sites.</p> <p>6.2 Compare different types of cameras and monitors used.</p> <p>6.3 Identify the types of synchronising control used.</p> <p>6.4 Compare the types of cables used with CCTV.</p> <p>6.5 Explain the importance of lighting and the methods used for CCTV.</p> <p>6.6 Describe switching methods used with CCTV.</p> <p>6.7 Explain the importance of earthing in a CCTV system.</p>
Learning Outcome 7	Discuss the importance of locking devices.
Assessment criteria	<p>7.1 Define a range of locks commonly used in the security industry, both mechanical and electronic.</p> <p>7.2 Install an electro-mechanical security lock to a simulated access door.</p> <p>7.3 Identify faults in electromechanical locking devices (basic only)</p>
Learning Outcome 8	Explain the importance of lighting in the security industry.

Assessment criteria	Explain the applications for security lighting.
Learning Outcome 9 Assessment criteria	<p>8.1 Define types and installation methods for a range of lighting.</p> <p>8.2 Define the terms used with lighting, such as CRI (colour rendering index) etc.</p> <p>8.3 Connect / interface a security light to an alarm panel for remote and automatic operation</p>
Learning Outcome 9 Assessment criteria	<p>Ensure the correct selection and use of a broad range of hand and power tools.</p> <p>9.1 Demonstrate the correct use of a range of carpentry chisels for paring and gouging</p> <p>9.2 Use an electric drill of the appropriate type and size to drill through timber, concrete and metal.</p> <p>9.3 Describe the correct procedure to chase out a brick wall with a demolition hammer to allow subsequent entry of electrical conduit</p> <p>9.4 Explain the safety precautions when using electric and pneumatic tools.</p> <p>9.5 Select the correct anchor from a range of wall anchor types.</p>
Learning Outcome 10 Assessment criteria	<p>Plan and schedule an installation.</p> <p>10.1 Prepare a working plan for the installation of a security system that covers:</p> <ul style="list-style-type: none"> • Responding to the initial customer inquiry • Preparing quotation or tender documents • Coordinating subtrades and work schedule • Coordinating equipment delivery (including JIT <i>just in time delivery</i>) <p>10.2 Explain the importance of scheduling work and delivery of material using a classical project management technique.</p>
Learning Outcome 11 Assessment criteria	<p>Install a small security system to a prescribed tender or quotation and working plan.</p> <p>11.1 Install and commission a small security system in accordance with customers requirements and quotation / tender as previously outlined.</p> <p>11.2 Explain how an existing security system would be decommissioned and removed, if necessary.</p> <p>11.3 Determine any system modifications and implement as required.</p>

	<p>11.4 Test the electronic security system for correct operation.</p> <p>11.5 Instruct the user / operator / owner in the use of the electronic security system.</p> <p>11.6 Establish monitoring parameters and set up monitoring procedures as required.</p>
Learning Outcome 12	Maintain and service a security system installation.
Assessment criteria	<p>12.1 Identify and diagnose common electronic security system faults.</p> <p>12.2 Explain how to maintain and service alarm equipment.</p> <p>12.3 Carry out a simulated repair to electronic security equipment.</p> <p>12.4 Draw a plan for routine maintenance of a security installation and associated equipment. (this would be in accordance with AS2201.1)</p>
8 Delivery of the module	
Delivery strategy	<p>The delivery strategy must be suitable for both theoretical and/or practical learning and module purpose.</p> <p>It is recommended that learning and assessment be facilitated in a holistic manner which may require a learning outcome sequence other than that indicated in the body of this module.</p> <p>Also an integrated theory/practice approach should be used where students learn by experimentation and through research and laboratory reports.</p>
Resource requirements	<p>Minimum teacher qualifications: 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: Stores/laboratory assistant: On class hours: Off class hours: 18 hours.</p> <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.</p>

Occupational health and safety requirements

Appropriate texts.

A safe and healthy environment will be provided for students
In regard to classroom and laboratory safety.