

<b>1 Module Details</b>	
<b>Module Name</b>	<b>Refrigeration Systems Safety</b>
<b>Nominal duration</b>	0.5 module (18-20 hrs)
<b>Module code</b>	NUE508
<b>Discipline code</b>	0703620
<b>2 Module purpose</b>	This module provides methods and criteria for ensuring a person has achieved levels of performance in the critical skills related to the installation, maintenance, repair, fault finding, testing and commissioning of refrigeration & air conditioning systems and equipment.
<b>3 Prerequisites</b>	This module shall be undertaken only after work performance reports for all competency units in the Certificate III Electrotechnology refrigeration & air conditioning to indicate that relevant work is routinely being carried out autonomously and to requirements.
<b>4 Relationship to competency standards</b>	This module assesses part of the critical knowledge and skills supporting the achievement of competency in units:  NES009A, NES103eA, NES106eA, NES206eA, NES208*A, NES210*A, NES301eA, NES402eA, NES501eA, NES505*A
<b>5 Content</b>	<ol style="list-style-type: none"><li><b>1. Working safely on refrigeration &amp; air conditioning systems</b><ul style="list-style-type: none"><li>• Knowledge</li><li>• Skills</li></ul></li><li><b>2. Safe operation of refrigeration &amp; air conditioning system</b><ul style="list-style-type: none"><li>• Knowledge</li><li>• Skills</li></ul></li><li><b>3. Refrigeration &amp; air conditioning system equipment</b><ul style="list-style-type: none"><li>• Selection</li><li>• Component</li><li>• Accessories</li><li>• Piping</li><li>• Test equipment</li></ul></li><li><b>4. Protection methods and devices</b><ul style="list-style-type: none"><li>• Operation</li><li>• Knowledge</li><li>• Skills</li></ul></li><li><b>5. Follow relevant Codes, Regulations and trade practices</b></li></ol>
<b>6 Assessment strategy</b>	Assessment events should be set centrally – National assessment

<b>Assessment methods</b>	Assessment should be progressive reflecting a holistic approach to ensure the module purpose is met. To assist in ensuring validity, reliability and fairness assessment instruments should include practical exercises, assignments and written tests consisting of a number of item types, such as multiple choice, short answer and problem solving.
<b>Conditions of assessment</b>	Learning and assessment will take place in a simulated workplace environment.
<b>7 Learning Outcome Details</b>	
<b>Learning Outcome 1</b>	<b>Demonstrate knowledge and skills for working safely with refrigeration &amp; air conditioning systems.</b>
<b>Assessment criteria</b>	<ul style="list-style-type: none"> <li>1.1 State the safety procedures to work on refrigeration &amp; air conditioning systems, circuits and apparatus.</li> <li>1.2 Demonstrate and apply safe working practices.</li> </ul>
<b>Learning Outcome 2</b>	<b>Demonstrate knowledge and skills for ensuring a refrigeration &amp; air conditioning system or circuits are safe to use.</b>
<b>Assessment criteria</b>	<ul style="list-style-type: none"> <li>2.1 State methods for ensuring refrigeration &amp; air conditioning systems, circuits and apparatus are safe to use.</li> <li>2.2 Describe the minimum requirement for the design, construction and testing of refrigeration &amp; air conditioning systems.</li> </ul>
<b>Learning Outcome 3</b>	<b>Demonstrate knowledge and skills for selecting appropriate refrigeration &amp; air conditioning apparatus, components, accessories and cables.</b>
<b>Assessment criteria</b>	<ul style="list-style-type: none"> <li>3.1 Apply methods for selecting equipment for an refrigeration &amp; air conditioning system.</li> </ul>
<b>Learning Outcome 4</b>	<b>Demonstrate knowledge and skills for ensuring refrigeration &amp; air conditioning fault protection devices will operate as intended.</b>
<b>Assessment criteria</b>	<ul style="list-style-type: none"> <li>4.1 Explain the features and characteristics of refrigeration &amp; air conditioning overload and fault protection systems</li> <li>4.2 Apply a method for ensuring refrigeration &amp; air conditioning fault protection systems will operate under overload and fault conditions.</li> </ul>
<b>8 Delivery of module</b>	
<b>Delivery strategy</b>	Delivery strategies must be suitable for learning both theoretical and practical aspects described in the module purpose. It is considered that the most effective way to achieve this is by integration of theory and practice where students learn by experimentation, research and reports. It is recommended that learning and assessment be facilitated in a holistic manner that may require learning outcome sequence other than that indicated in the module.

**Resource requirements**

Resources should be sufficient to carry out learning activities on an individual basis.

Useful references include:

- Boyle, G. Australian Refrigeration and Air Conditioning. 3<sup>rd</sup> Edition Volume 1 and 2. ISBN 1 86442 0375 TAFE Publication of West Australia, Perth, WA
- Jenneson, J. R. 1995 Electrical Principles for Electrical Trades, McGraw Hill, Sydney
- AS HB40:1997 Code of Good Practice for the Reduction of Emission of Fluorocarbon Refrigerants.
- Ozone Protection Regulations

**Occupational Health and Safety Requirements**

A safe and healthy environment will be provided for students and teachers as well as the particular safety procedures followed as part of the learning / teaching content.