## 1. Module details

**Module name**

**Refrigeration / HVAC Codes and Regulations**

**Module duration**

One module (36-40hrs)

**Module code**

EB141.1

**Discipline code**

TBA

## 2. Module purpose

This module provides the student with the knowledge and skills necessary to correctly identify, interpret and implement the relevant Australian Standards, Codes and Regulations associated with Refrigeration and HVAC design and operation. Specifically, students will become familiar with Australian Standard 1668 parts 1 and 2, AS1677 Refrigeration Systems as well as the Building code of Australia. Students will also be introduced to any relevant regulations as enforced by local Statutory Authorities.

## 3. Prerequisites

HVAC Air Systems EA131
or HVAC Control Systems 1 EA132
or Refrigeration System Analysis EA142

## 4. Relationship to competency standards

NES303e, NES404e, NES503e

## 5. Content

**Refrigeration System**

- AS1677 – Refrigeration Systems
  - Refrigerant classification
  - Safe refrigerant charge
  - System design requirements
  - Installation
  - Pressure testing
- HB40 – Codes of Good Practice

**Fire and Smoke control,**

- AS1668.1,
- Pressurisation.

**Mechanical Ventilation for acceptable indoor air quality,**

- AS1668.2,
- AS3666.

**Noise measurement and control,**

- AS1055,

- AS1359.51.

**Building Code of Australia**,
- Section E2, Smoke Control.
- Section F4, Light and Ventilation.
- Section G2, Heating Appliances, Fireplaces, Chimneys and Flues.

**Regulations under State Government acts**,
- Workplace Health and Safety Act,
- Provisions Relating to Workplace Health and Safety:
- General duties of employers, manufacturers etc.,
- Provisions concerning projects.
- Provisions relating work place Amenities.
- State Environment protection Acts, (Air and Water pollution control regulations).

**Local Government By-laws**,
- Noise control,
- Water consumption, disposal.

**Emergency Services Requirements.**

## 6. Assessment strategy

**Assessment methods**

Open book short answer tests and Assignments.

**Conditions of assessment**

## 7. Learning outcome details

**Learning outcome 1**

**Outline the relevant sections of codes and regulations as they apply to Refrigeration and HVAC systems and building pressurisation systems.**

**Assessment criteria**

1.1 Define the scope of Commercial and Industrial Air Conditioning and Refrigeration

1.2 Identify and list the relevant sections and clauses of Australian Standard 1668 parts 1 and 2, AS1677 Refrigeration Systems as well as the Building code of Australia and relevant regulations as enforced by local Statutory Authorities.

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| **Learning outcome 2** | **Apply the relevant sections of codes and regulations to the design of Refrigeration and HVAC systems.** |
| **Assessment criteria** | 2.1 Produce a report outlining the implications that the relevant sections of codes and regulations have on the design of Refrigeration and HVAC systems.<br>2.2 Produce designs, drawings and specifications of HVAC systems that comply with all relevant codes and regulations. |
| **Learning outcome 3** | **Determine compliance of plant with relevant Australian Standards, Codes and Regulations.** |
| **Assessment criteria** | 3.1 Investigate the construction, maintenance and operation of selected commercial and industrial Refrigeration and HVAC plant and determine compliance with relevant Australian Standards, Codes and Regulations.<br>3.2 Prepare detailed reports detailing the outcomes of assessment criteria 3.1. |

## 8. Delivery of the module

**Delivery strategy**

This module contains learning outcomes that will require both theory and practical instruction. As such, it will require resources to facilitate both on and off the job delivery strategies.

These strategies may involve:

*co-operative registered off-the-job provider/ employer delivery sharing available resources.

*delivery by an employer who is sub-registered as an off-the-job provider, with qualified trainers in-house using resources to facilitate on and off-the-job delivery.

*off-the-job objectives should focus on the industry context while on-the-job objectives should reflect application within enterprise operations.

Assessment instruments will need to be developed by the module provider. These instruments will need to reflect consistency with stated module learning outcomes and related assessment criteria.

Student records will be the responsibility of the off-the-job provider and where more than one off-the-job provider is involved, formal processes for transfer of student information must be established.

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| **Resource requirements** | |
| **Occupational health and safety requirements** | Students should be made aware of occupational health and safety issues in all situations and be expected to demonstrate safe-working practices at all times. |