

1. Module details

Module name

COMMERCIAL ICE MAKING SYSTEMS

Nominal duration

Half module

It is anticipated that students will achieve the competencies specified in 18 to 20 hours.

Module codes

NR046

Discipline code

0703320

2. Module purpose

To provide the student with the knowledge and skills to install, service and maintain ice-making equipment.

3. Prerequisites

NR012 - System Control

NR011 - Installation

4. Relationship to competency standards

TBA

5. Content

1. Applications

- name various types e.g. cube, flake, cylinder
- continuous, intermittent.

2. Operation

- operating cycle, harvest cycle
- type of ice; clear, opaque
- water quality; sludge, scale, water contaminates
- operating temperatures
- water nozzles, ball float
- ice storage
- location
- refrigerating systems

3. Responsibilities under the Act

- regulators and standards
- cleaning
- electrical and water requirements
- condensate an drainage point

4. Installation requirements

- connecting services; electrical, water supply, drainage
- operating conditions
- controls
- circuit diagrams; electrical, water, drainage, refrigeration
- service
- fault find
- maintenance requirements

6. Learning outcome details

Learning outcome 1

On the completion of this module, the learner will be able to:

Name and describe the different types of commercial ice making equipment and their application.

Assessment criteria

1.1 Identify typical makers

1.2 List typical applications for ice makers

Learning outcome 2

Describe the operating principles, features and methods of producing ice used by typical ice makers.

Assessment criteria

2.1 Describe the operating principles of typical ice makers.

2.2 List special features of components used in ice makers.

Learning outcome 3

Demonstrate knowledge of relevant codes and regulations for the installation of ice makers in commercial premises.

Assessment criteria

3.1 Describe considerations for the location and installation of an ice maker in commercial premises.

3.2 List statutory water and hygiene requirements for ice makers.

Learning outcome 4

Install, service and maintain ice makers in accordance with statutory and manufacturer's requirements.

Assessment criteria

4.1 List responsibilities under the ACT and relevant regulators.

4.2 Fault find and service a typical ice maker.

4.3 Record maintenance procedures.

4.4 Identify cleaning procedures for various components.

7. Assessment Strategies

Short answer questions.

Written tests.

Practical test.

Normally learning and assessment will be conducted in a workshop and classroom environment.

8. Module Delivery Strategies

Delivery strategies must be suitable for both theoretical and/or practical learning and module purpose.

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.

9. Resource Requirements

Also, an integrated theory/practice approach should be used where students learn by practical exercises through research and workshop reports.

A range of commercial ice makers measuring equipment. Resources should be sufficient for students to carry out practical exercises on an individual basis.

Useful references include:

- Australian refrigeration and Air Conditioning Volumes I & II, A CR & D Project Trust Publication
- Dossat, R., J., Principles of Refrigeration, Second Edition, SI Version, John Wiley and Sons, New York, Latest Edition
- Ashare Handbook, Refrigeration Systems and Applications., SI Version, ASHRAE, Atlanta.

10. Occupational health and safety requirements

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