

1. Module details**Module name****Domestic Appliance Principles****Nominal duration**

Full module

This module is designed on the assumption that most of the students will achieve the competencies specified in 35-40 hours. The length of time taken to complete a module will vary depending on factors such as teaching method used, knowledge and skills at entry and individual student's ability.

Module codes

NUE 016

Discipline code**2. Module purpose**

This module aims to provide students with knowledge and skills in the principles of domestic appliances enabling them to carry out service and repairs on appliances in a workshop situation.

3. Prerequisites

O H & S (NBB18)

Workshop Practice (NE175)

Electrical Principles (NE160)

4. Relationship to competency standards

This module provides some of the knowledge and skills underpinning competence in the following Appliance Servicing Draft Standards: A.1, A.2, A.3, A.4, A.5.

5. Content

1. Major appliances

- washing machines, clothes dryers, dishwashers, refrigerators, freezers, air conditioners, electrical and gas cookers and heaters
 - installation requirements
- codes statutory requirements, regulations
- manufacturer and company requirements, warranty
- site preparation, accessibility, connecting services, methods of fixing.
- OH & S.

2. Operating Principles

- clothes washer; heater fill pre-soak & soak options, wash, rinse, spin.
- clothes dryers, tumbling, heating, lint control
- dishwasher, rinse, wash, detergent, heater, rinse, drain
- refrigerator, freezer, air conditioner, cooling, heating, defrost, drain
- electric heaters and cookers, hot plates and elements, temperature controllers, timers
- gas heaters and cookers, ignition, burner temperature controllers, timers
- gas heaters and cookers, ignition, burner temperature controllers, regulators, flue and ventilation.

3. Function of Components

- timer, temperature controllers, motors, speed controllers, reverse action, transmission, switches, solenoids, filters, fans, burners, regulators, ignition, elements, balancing mechanisms, compressors, agitators.

4. Testing appliances

- service and maintenance manuals
- manufacturers data, mechanical diagram electrical circuits
- pre-start and operational procedures
- test instruments
- specialised tools and equipment.

5. Adjust and set operational controls

- hazards, safety checks, connecting services, leak test
- set safety controls, pre-start test, operating cycle
- documentation, equipment labels.

6. Assessment strategy**Assessment method**

Theory test
Short answer questions
Practical test

Conditions of assessment**7. Learning outcome details**

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

Learning outcome 1

Identify major appliances and installation requirements.

Assessment Criteria

- 1.1 Identify appliances details and application from manufacturers data.
- 1.2 Identify installation requirements for given appliances.
- 1.3 State relevant; codes, regulations safety and statutory requirements.

Learning outcome 2

Describe the operation principles of major domestic appliances.

Assessment Criteria

- 2.1 Describe the operation of given gas appliances.
- 2.2 Draw and interpret electrical and piping circuits for a given gas appliance.

Learning outcome 3	Describe the functions of major components.
Assessment Criteria	<p>3.1 Identify the major components in major appliances.</p> <p>3.2 Explain the function of major components in domestic appliances.</p>
Learning outcome 4	Test the operation of domestic appliances.
Assessment Criteria	<p>4.1 Fix an appliance in an approved position and connect services.</p> <p>4.2 Complete pre-start checks.</p> <p>4.3 Check safety controls.</p>
Learning outcome 5	Adjust and set operating controls.
Assessment Criteria	<p>5.1 Set safety and operational controls.</p> <p>5.2 Adjust controls and check appliance operation.</p> <p>5.3 Compare the operating cycle of a tested appliance with manufacturers data.</p> <p>5.4 List hazards to be avoided by incorrect operation of an appliance.</p> <p>5.5 Report on the operating cycle of the appliance.</p>

8. Delivery of the module

Delivery strategy

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 sequence other than indicated in the body of this module descriptor.

Resource requirements

Most of the practical aspects of this modules would be by demonstration or group participation. However when applicable, maximum of one student per appliance being tested after repairs have been carried out is advised for competency is to obtained.

Appliance workshop

Equipment:

Appliances; washing machines, clothes dryers, dishwashers, refrigerators, freezers, air conditioners, electric and gas heaters and cookers.

Appropriate manufacturers data

Appliance components

Specialised tools and equipment

Test instruments.

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. Electrical safety should be emphasised.