

## NITEC IN TECHNOLOGY – BUILT ENVIRONMENT (MECHANICAL & ELECTRICAL SERVICES)

Course Code: NTBEM / Plan Code: NTBEM

### COURSE OBJECTIVE

This course provides students with the technical skills and knowledge in first line maintenance work, carry out planned maintenance, and undertake servicing work on air-conditioning systems, firefighting and fire protection systems, electrical and emergency services, amenities, fittings and fixtures, CCTV and AV/PA system for commercial, institutional, industrial and residential buildings in accordance with the manufacturer and authority requirements to ensure optimum functioning of plant, equipment and systems.

### COURSE STRUCTURE

S/N	Module Details	Module Code	Module Objectives
M1	<b>Electrical Services</b> 60 hrs (T) 60 hrs (P) Credits: 6 Prerequisite: Nil	CB2106FP	On completion of the module, students should be able interpret electrical circuit diagrams; install conduits and trunkings; replace light fittings and accessories; rectify faults in electrical circuits; and conduct insulation resistance and continuity tests.
		Equivalent Code CB2101FPR	
M2	<b>Mechanical Services</b> 60 hrs (T) 60 hrs (P) Credits: 6 Prerequisite: Nil	CB2107FP	On completion of the module, students should be able repair mechanical parts, service centrifugal pump, motor-drive assembly, air-cooled petrol and liquid-cooled diesel-driven portable generator, as well as replace faulty component of drive mechanism and door fittings.
		Equivalent Code CB2102FPR	
M3	<b>Residential Air-Conditioning Services</b> 60 hrs (T) 60 hrs (P) Credits: 6 Prerequisite: Nil	CB2108FP	On completion of the module, students should be able to install refrigeration piping, set up basic refrigeration system, install unitary and split-type air conditioners, replace faulty fan coil and condensing unit, and carry out preventive maintenance for residential air-conditioning system, water cooler and dehumidifier.
		Equivalent Code CB2103FPR	
M4	<b>Piping and Plumbing Services</b> 60 hrs (T) 60 hrs (P) Credits: 6 Prerequisite: Nil	CB2109FP	On completion of the module, students should be able to repair water supply and sanitary piping system, replace piping fittings, sanitary fixtures, rectify faulty water heaters, clear pipe and drain chokes, and inspect water pump and control systems.
		Equivalent Code CB2104FPR	
M5	<b>Sustainable Air-Conditioning and Refrigeration Technology</b> 60 hrs (T) 60 hrs (P) Credits: 7 Prerequisite: Nil	CB3108FP	On completion of the module, students should be able to interpret ducting and piping layout drawings of air-conditioning system, carry out balancing of airflow in air distribution system, perform maintenance of chilled and condenser water piping system, air distribution system and air-conditioning equipment as well as functionality checks on Building Management System. Students will also learn the various sustainable air-conditioning and refrigeration technologies adopted in modern green buildings.
		Equivalent Code Nil	
M6	<b>Fire Detection and Protection Systems</b> 60 hrs (T) 60 hrs (P) Credits: 6 Prerequisite: Nil	CB3109FP	On completion of the module, students should be able to interpret building mechanical system plan, inspect fire alarm and detection system, service fire-fighting equipment such as hose reel system, riser system, private hydrant system and automated system, and perform inspection of emergency voice communication system, fire extinguishers and fire suppression system.
		Equivalent Code CB3102FPR	

Abbreviations: T – Theory, P – Practical

### **CREDITS FOR CERTIFICATION**

Total of 37 credits from successful completion of 6 modules.

### **OTHER ENTRY REQUIREMENTS**

Passed *ISC* in Electrical Servicing; or  
Passed *ISC* in Mechanical Servicing; or  
Passed *ISC* in Facility Services; or  
Passed *ISC* in Residential Air-Conditioning; or  
Passed *ISC* in Residential Plumbing; or  
Passed *ISC* in Electrical Wiring.

### **VENUE**

ITE College East, ITE College West

Note:

- 1) Applicant must be free from colour appreciation deficiency.
- 2) The training schedule of lessons is subject to change.
- 3) Depending on demand, not all the modules in the *CET Nitec* in Technology courses will be offered in each intake. Where the modules are offered and there is insufficient enrolment, the classes will be cancelled and a full refund will be given to the affected students.