

Requirements of UEE30820 Qualifications from Semester 3 2023

UEEEL0003 - Arrange circuits, control, and protection for electrical installations.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Determining the extent and nature of the installation from job specifications		
2. Arranging the control and protection for electrical installations with and without safety services		
3. Applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices		
4. Applying safety principles for electrical systems in buildings and premises		
5. Applying sustainable energy principles and practices		
6. Determining individual load requirements		
7. Arranging and terminating circuits, control and protective devices to comply with requirements		
8. Selecting circuit protective devices and residual current devices (RCDS) that comply with all requirements		
9. Selecting minimum size-earthing conductors in accordance with relevant industry standards		
10. Dividing installation into circuits		
11. Coordination of protection devices and circuit wiring		
12. Selecting overcurrent protection devices, circuit breakers and RCDS/RCBOS		

UEEEL0005 - Develop and connect electrical control circuits.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices		
2. Applying sustainable energy principles and practices		
3. Labelling wires and terminals		
4. Developing forward reverse circuit requiring interlocking from a description of the circuit operation, including jog and interlock functions		

UEEEL0008 - Evaluate and modify low voltage heating equipment and controls.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, including identifying hazards, assessing risks and implementing control measures		
2. Checking circuits are isolated in accordance with workplace procedures and regulatory requirements		
3. Connecting heating equipment and appliances		

UEEEL0009 - Evaluate and modify low voltage lighting circuits, equipment, and controls.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, including:		
2. Identifying and assessing hazards and risks, and implementing control measures		

3. Checking circuits are isolated in accordance with workplace procedures and regulatory requirements		
4. Determining the operating parameters of existing lighting circuits and equipment		
5. Intermediate switching of light points using the loop at the light/switch methods of thermoplastic sheathed (TPS) wiring		
6. Developing lighting circuits and equipment to comply with a specified function and operating parameters		
7. Determining the cause of low illuminance level in existing lighting circuits and equipment		
8. Determining conditions causing existing lighting circuits and equipment to be unsafe		
9. Connecting lighting equipment and controls		
10. Identifying faulty components in luminaires and auxiliary/control equipment from test results		
11. Testing luminaires and auxiliary/control equipment for serviceability		

UEEEL0010 - Evaluate and modify low voltage socket outlets circuits

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisor signature	
1. Applying work health and safety (WHS)/occupational health and safety (ohs) workplace procedures, including:		
2. Identifying and assessing hazards and risks, and implementing control measures		
3. Checking circuits are isolated in accordance with workplace procedures and regulatory requirements		
4. Altering existing socket outlet circuits to comply with specified operating parameters		
5. Developing socket outlets circuits to comply with a specified function and operating parameters		
6. Determining conditions causing existing socket outlets circuits to be unsafe		
7. Verifying correct operation of the installed circuits, including dead testing to comply with industry standards		
8. Verifying the polarity of switched socket outlets		
9. Identifying faulty socket outlets from visual inspection and/or test results		

UEEEL0012 Install low voltage wiring, appliance, switchgear and associated accessories

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. reading and interpreting drawings and schedules related to cable layouts, apparatus locations and circuit connections		
2. planning cable routes and installation of appliances, switchgear and accessories and obtaining installation materials		
3. identifying underground services		
4. identifying underground services		
5. installing wiring systems for low voltage (LV) circuits		
6. installing LV electrical apparatus and associated equipment		
7. placing and securing appliances, switchgear and accessories accurately in their planned location		
8. terminating subcircuit cabling at switchboards and connecting components including: correct interconnection between switchgear, protection devices and links' use of adequately sized cables correct marking of equipment clear identification of circuit neutral conductors		
9. terminating and connecting appliances, switchgear and accessories in accordance with industry standards		
10. conducting safety inspection, testing and documentation of installed circuits, including verification of earth continuity, insulation resistance, polarity, circuit connections and protection arrangements		
11. maintaining fire integrity.		

UEEEL0014 - Isolate, test and troubleshoot low voltage electrical circuits.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
12. Applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, including:		
13. Identifying and assessing hazards and risks, and implementing control measures		
14. Selecting and using correct tools and equipment to isolate, test and troubleshoot electrical circuits		
15. Performing safe isolation of equipment		
16. Preparing a safe work method statement (SWMS) or job safety analysis (JSA) for effective and safe isolation		
17. Applying safe methods to identify sources of supply to be isolated		
18. Identifying appropriate points of isolation		
19. Isolating equipment from all sources of supply by safely switching off switches or circuit breakers, removing fuses or links, or removing circuit connections		
20. Securely isolating devices by applying an isolation securing device which requires a deliberate action to engage or disengage		
21. Applying a personal danger tag, lock-out or permit system		
22. Applying safe methods to confirm effective and safe isolation from all sources of supply		
23. Proving de-energisation of all relevant electrical equipment and conductors		
24. Testing the voltage tester on a known live source		
25. Testing between all conductors and a known earth		
26. Testing between conductors		
27. Retesting the voltage tester on a known live source for correct operation		
28. Correctly using personal protective equipment (PPE) whilst performing effective isolation and operation of low voltage (LV) equipment		
29. Completing visual inspection of the electrical installation for compliance with regulatory requirements including protection requirements		
30. Completing visual inspection of the electrical installation for compliance with regulatory requirements including general condition		
31. Completing visual inspection of the electrical installation for compliance with regulatory requirements including mains/submains		
32. Completing visual inspection of the electrical installation for compliance with regulatory requirements including switchboards		
33. Completing visual inspection of the electrical installation for compliance with regulatory requirements including wiring systems		
34. Completing visual inspection of the electrical installation for compliance with regulatory requirements including switchboards		
35. Completing visual inspection of the electrical installation for compliance with regulatory requirements including equipment and accessories		
36. Completing visual inspection of the electrical installation for compliance with regulatory requirements including earthing		
37. Conducting mandatory testing to ensure compliance with AS/NZS 3000 mandatory test requirements and the application of mandatory tests following guidance of AS/NZS 3017		
38. Conducting mandatory testing to ensure compliance with insulation resistance of mains, sub-mains and final sub-circuits meets the regulatory requirements		
39. Conducting mandatory testing to ensure compliance with earth continuity of the main earthing conductor, protective earthing conductors, combined protective earthing and neutral (PEN) conductors and bonding conductors meet the regulatory requirements		
40. Conducting mandatory testing to ensure compliance with polarity of active, neutral and earth conductors including phase sequence and rotation meet the regulatory requirements		
41. Conducting mandatory earthing to ensure compliance with correct connections of active, neutral and protective earthing conductors are tested to ensure no short circuits between conductors, no transposition of conductors that could result in the earthing system or exposed conductive parts becoming energised, and no interconnection of conductors between different circuits, in accordance with regulatory requirements		
42. Conducting mandatory testing to ensure compliance with verification that earth fault-loop impedance limitations are not exceeded in accordance with regulatory requirements		

43. Conducting mandatory testing to ensure compliance with residual current devices (RCD'S) have been correctly installed, their function verified, and the isolation of all switched poles verified, in accordance with regulatory requirements		
44. Locating and diagnosing common faults in electrical circuits		
45. Repairing and/or replacing parts to rectify faults in accordance with AS/NZS 3000		
46. Applying steps required to ensure the fault does not re-occur		
47. Completing final testing and re-commissioning		

UEEEL0018 – Select wiring systems and select cables for low voltage electrical systems

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using risk control measures		
2. Applying sustainable energy principles and practices		
3. Selecting conductor size based on the maximum current requirement for a given installation condition		
4. determining the extent and nature of the installation for job specifications		
5. determining cable routes, the route lengths of cables and the conditions in which the wiring system is to operate		
6. determining current requirements for given final sub-circuits		
7. selecting wiring system suitable for the installation environment		
8. selecting cables, including voltage-drop, fault-loop impedance and minimum conductor size to satisfy current-carrying capacity		
9. selecting compliant earthing system components		
10. determining maximum demand for final sub-circuits for an installation in accordance with industry and regulatory standards		
11. arranging installation loads onto separate circuits		
12. selecting cables for final sub-circuits to meet maximum demand and installation conditions, including any derating factors		
13. selecting circuit protection devices to satisfy maximum demand and coordination in accordance with industry and regulatory requirements		
14. selecting circuit protection devices to satisfy requirements for discrimination, fault protection and overcurrent		

UEEEL0023 - Terminate cables, cords and accessories for low voltage circuits

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
15. Applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using risk control measures		
16. Applying sustainable energy principles and practices		
17. Confirming relevant circuits are isolated		
18. Terminating wiring and accessories for low voltage circuits, including:		
19. Cutting cable ends and stripping sheath/insulation to a sufficient length		
20. Fitting and securing cable glands/retaining devices correctly		
21. Preparing and terminating conductors to suit the type of terminal at which they are to be connected		
22. Selecting appropriate cable/cord and conductor devices		
23. Testing completed cables to ensure compliant continuity and insulation resistance		
24. Inspecting junction box/terminal enclosures and determining the type and size of required cable and conductor termination devices		
25. Testing terminated cables and cords.		

UEEEL0024 - Test and connect alternating current A.C rotating machines.

Evidence required to demonstrate competence in this unit must be gathered in an authentic workplace environment under operational conditions (not simulated) and completed 2 times before final determination of competence in this unit can be made.	Supervisors' signatures	
1. Applying work health and safety (WHS)/occupational health and safety (OHS) workplace procedures, including:		
2. Identifying and assessing hazards and risks, and implementing control measures		
3. Checking circuits are isolated in accordance with workplace procedures and regulatory requirements		
4. Applying testing and connecting techniques in alternating current (a.c.) Rotating machines, including:		
5. Connecting, running and reversing the direction of a single-phase motor		
6. Applying sustainable energy principles and practices		