

Course outline: 221 Cabling G106A
UEENEEG106A - Terminate cables, cords and accessories for low voltage circuits

Qualification:	Certificate III in Electrotechnology Electrician - UEE30811
Applicable to:	Learners, industry/employers, governments, community and Global Energy Training Solutions as the provider
Unit of competency:	Accessible from: http://training.gov.au/Training/Details/UEENEEG106A
Related policies:	<p>Policy & Procedure 1 – Enrolment Policy</p> <p>Policy & Procedure 2 – Credit Transfer & Recognition of Prior Learning</p> <p>Policy & Procedure 3 – Learner Support</p> <p>Policy & Procedure 4 – Assessment</p> <p>Policy & Procedure 5 – Academic Misconduct</p> <p>Policy & Procedure 6 – Alcohol & Other Drugs</p> <p>Policy & Procedure 7 – Access, Equity & Diversity</p> <p>Policy & Procedure 8 – Vulnerable People</p> <p>Policy & Procedure 9 – Work, Health & Safety</p> <p>Policy & Procedure 10 – Incident, Injury & Rehabilitation</p> <p>Policy & Procedure 11 – Competency, & Qualification Assessment Decisions</p> <p>Policy & Procedure 12 – Complaints & Appeals</p> <p>Policy & Procedure 13 – Privacy</p> <p>Policy & Procedure 14 – Fees</p> <p>Policy & Procedure 15 – Industry & Employer Engagement</p> <p>Policy & Procedure 16 – Trainers & Assessors</p> <p>Policy & Procedure 17 – Administration & Other Staff</p> <p>Policy & Procedure 18 – Quality Assurance</p> <p>Policy & Procedure 19 – Business & Financial Risk Management</p> <p>Policy & Procedure 20 – Changes to Qualifications or Business</p> <p>Policy & Procedure 21 – Conflict of Interest</p> <p>Policy & Procedure 22 – Records Management</p> <p>Policy & Procedure 23 – Marketing & Advertising</p>
Monitor and review:	Policy & Procedure 18 – Quality Assurance
Responsibility:	Ben Murphy – as Proprietor
Questions/queries:	Feedback and suggestions welcomed: office@gets.com.au (+61) 02 6262 0077

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1. Material requirements

- AS/NZS 3000:2007 incorporating amendment 1 and 2
- Scientific calculator, ruler, pens and pencils
- Note book
- Hand tools
- Covered footwear
- Internet access(provided)

2. Session summaries

Day 1	
Required Skills and Knowledge	<p>T1 Cable types and terminations encompassing:</p> <ul style="list-style-type: none"> • cable variates (single cables, flexible cables, flexible cords, shielded cables, armoured cables, ribbon cables, other similar and like cables) • structural components of cables and their purpose (conductor material, stranding, insulation type, voltage rating, screening, sheathing, armour and serving) • Australian and International colour standards for cords and cables • construction of common cables • identification of cords and cables by conductor size, type and rating • application of various cords and cables types • identification of hardware used in terminating cords and cables • preparation and termination of cords and cables • termination of cords and cables using crimp lugs, tunnel connectors, soldering and solderless lugs • requirements to protect and support cables adequately (protection against mechanical damage, protection from adverse temperatures and corrosion and protection from magnetic field that may affect the performance of the cable). <p>T2 Cords, cables and plugs encompassing:</p> <ul style="list-style-type: none"> • selection of flexible cords for given applications • preparation of cord ends for connection • fitting standard three pin plug tops to a flexible cords • fitting standard three pin extension sockets to a flexible cords • connecting variety of plugs to different flexible cord types • requirements of AS/NZS 3000 for flexible cords, cables and plugs • using test equipment to test and locate various faults in flexible cords and cables.

	<p>T3 Flat TPS wiring systems encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the termination and protection of flat TPS cable • Installation of flat TPS cable in trunking and duct for the supply of socket outlets • using flat TPS cable for lighting looms • testing circuits to ensure they are safe and operate as intended
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Day 2

Required Skills and Knowledge	<p>T4 Circular TPS wiring systems encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of circular TPS cable • installation of circular TPS cables on cable ladder/tray • installation of circular TPS cable • testing circuits to ensure they are safe and operate as intended
	<p>T5 Thermoplastic insulated cables in non-metallic enclosures encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of non-metallic enclosures • cutting and setting rigid non-metallic ducting, trunking and conduit and accessories • installation of circuits using TPI cables in non-metallic enclosures • testing circuits to ensure they are safe and operate as intended
	<p>T6 Thermoplastic insulated cables in metallic enclosures encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of metallic enclosures • fitting metallic conduit to metallic trunking and accessories • cutting, threading and setting metallic conduit • installation of circuits using thermoplastic insulated cables in metallic conduit, ducting and trunking • testing circuits to ensure they are safe and operate as intended

Day 3

Required Skills and Knowledge	<p>T7 Fire protection cabling and systems encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of fire protection cable and mineral insulated metal sheathed cables • requirements when passing a wiring system through a fire rated wall or floor • recognising different fire protection cable types including Pyrolex, Radox and MIMS • termination of fire protection cable. • installation of circuits using fire protection cable. • testing circuits to ensure they are safe and operate as intended
	<p>T8 Steel wire armoured (SWA) cables encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of SWA cables • identifying accessories used with SWA cables • installation of circuits using SWA cables • testing circuits to ensure they are safe and operate as intended
	<p>T9 Trailing cables and catenary systems encompassing:</p> <ul style="list-style-type: none"> • Australian Standards requirements for the installation of trailing cables and catenary wiring • identifying equipment used with trailing cable and catenary systems • installation of catenary wiring systems • installation of trailing cable systems supplying pendant sockets • testing the installation to ensure it is safe and operates as intended

3. Elements and Performance Criteria

Elements and Performance Criteria require practice and demonstration in the work place.

Element		Performance Criteria	Work Performance
1: Prepare to terminate cables, cords and conductors	1.1	OHS procedures for a given work area are identified, obtained and understood.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	1.2	Health and safety risks are identified and established risk control measures and procedures in preparation for the work are followed.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	1.3	Safety hazards that have not previously been identified are noted and established risk control measures are implemented.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	1.4	The junction box/ terminal enclosures and terminal types are inspected to select the type and size of cable and conductor termination devices needed.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	1.5	Tools, materials and testing devices needed to for terminating cables and cords are obtained in accordance with established procedures and checked for correct operation and safety.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
2: Terminate cables, cords and conductors	2.1	OHS risk control measures and procedures for carrying out the work are followed.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.2	Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.3	Cable/cord ends are cut and sheath/insulation stripped with sufficient length to prevent stain on terminations and without undue waste.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.4	Cable glands/retaining devices are fitted and secured to ensure cable/cord cannot be pulled out of entry into junction box/ terminal enclosure.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.5	Conductors are prepared to suit the type of terminal at which there are to be connected.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.6	Conductors are terminated to ensure continuity across the terminal.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.7	Established methods for dealing with unexpected situations are discussed with appropriate person or persons and documented.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	2.8	Unexpected situations are dealt with safely and with the approval of an authorised person.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
3: Test terminated cables and cords	3.1	OHS work completion risk control measures and procedures are followed.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed
	3.2	Terminated cables are tested to ensure continuity and insulation resistance comply with requirements.	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Needs improvement <input type="checkbox"/> Not performed

4. Assessments

Assessment	When	Satisfactory mark/outcome
Theory assessment 1	Day 3	70%
Practical assessment 1	Day 1	100%
Practical assessment 2	Day 2	100%
Workplace Observation	After theory and practical assessments	Must be valid, sufficient, authentic and current
Employer Competency report		
Structured workplace experience interview		
Note: Once all theory, practical and on-site assessments are complete, competency assessment decisions can be made in conjunction with the learner, employer and registered training organisation.		

5. Version control

Version	Date of release	Author	Authorised by	Position	Rational for change
V1	5/10/2015	Ben Murphy	Ben Murphy	Proprietor	Initial release
V2	7/2/2017	Ben Murphy	Ben Murphy	Proprietor	Added Elements and Performance Criteria