

	UNIT	EQUIPMENT
MACHINE UNITS		
	<p>UEEEL0021 Solve problems in magnetic and electromagnetic devices</p> <p>UEEEL0019 Solve problems in direct current (d.c.) machines</p> <p>UEEEL0042 Develop engineering solutions for d.c. machine and control problems</p> <p>UEEEL0077 Evaluate and report on the performance of LV machines</p> <p>UEEEL0041 Develop engineering solution for synchronous machine and control problems</p> <p>UEEEL0043 Develop engineering solutions for induction machine and control problems</p>	<p>Equipment</p> <ul style="list-style-type: none"> ● d.c. machine ● ac machine ● Prime mover ● 1 x analogue voltmeter ● 2 x analogue ammeters ● DC Circuit breaker ● DC Contactor ● DC Power Supply ● AC ELV Supply ● Surge protection device <p>Materials</p> <ul style="list-style-type: none"> ● Variable load ● Field rheostat ● Switch ● Fuse ● Multimeter <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● PPE ● Hand tools ● Connection leads
ANALOG AND DIGITAL ELECTRONICS UNITS		
		<p>Equipment</p> <ul style="list-style-type: none"> ● Digital Trainer Kit ● Digital Probe ● Electronic Trainer Kit ● d.c. power supply 10 V ● analogue voltmeter ● analogue ammeter ● fuse and switch

		<ul style="list-style-type: none"> ● connection leads <p>Materials</p> <ul style="list-style-type: none"> ● 4 mm² connecting leads ● Multimeter <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Colour pens/pencils & ruler
ELECTRONIC CONTROL UNITS		
		<p>Equipment</p> <ul style="list-style-type: none"> ● Cathode oscilloscope ● Variable Frequency Power Supply ● Electronic Trainer Kit ● IC Cards ● Diode ● Transistor ● Silicon Control Rectifier ● ICs ● Resistors various bands ● Capacitors various bands ● DC Power Supply ● AC DC Converters ● DC DC Converter ● LEDS ● LED Drivers ● Heat sinks ● Soldering Iron ● Breadboard ● Solders ● Signal lamps ● DC Relays ● Circuit simulator software <p>Materials</p>

		<ul style="list-style-type: none"> ● 4 mm² connecting leads ● Multimeter <p>Miscellaneous Items:</p> <p>Colour pens/pencils & ruler</p>
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POWER SUPPLY UNITS		
	UEEECD0075 Troubleshoot single phase input d.c power supplies	<p>Equipment</p> <ul style="list-style-type: none"> ● Diode Rectifier ● Capacitor ● 240v to 12 v step down transformer ● Filter ● Zener diode ● Voltage regulator card ● Regulated power supply card ● Variable DC Power supply ● Circuit design instruction books <p>Materials</p> <ul style="list-style-type: none"> ● 4 mm² connecting leads ● Multimeter <p>Materials</p> <ul style="list-style-type: none"> ● 4 mm² connecting leads ● Multimeter <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Colour pens/pencil ● Ruler
CIRCUIT ANALYSIS UNITS		
	UEECD0046 Solve problems in single path circuits	<p>Equipment</p>

	<p>UEECD0044 Solve problems in multiple path circuits UEEEL0020 Solve problems in low voltage (a.c.) circuits UEECD0036 Provide engineering solutions for problems in complex multiple path circuits UEEEL0062 Provide engineering solutions to problems in complex polyphase power circuits</p>	<ul style="list-style-type: none"> ● Resistors various bands ● Capacitors various bands ● DC Power Supply ● Variable frequency power supply ● Inductors ● Electronic circuit trainer ● Breadboard <p>Materials</p> <ul style="list-style-type: none"> ● 4 mm² connecting leads ● Multimeter <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Colour pens/pencil ● Ruler
ENGINEERING COMPUTER APPLICATION SOFTWARE UNITS*		
	<p>MEM30027 Prepare basic programs for programmable logic controllers</p>	<p>Equipment</p> <ul style="list-style-type: none"> ● CAD Software ● Fusion 360 ● Tinkercad ● SketchUp ● Electronic Symbol ● Electrical CAD <p>Materials</p> <ul style="list-style-type: none"> ● Pen / Pencil ● Paper ● Graph paper <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Colour pens/pencil ● Ruler
ELECTRICAL APPARATUS UNITS		

UEEEL0079 Plan and analyse LV electrical apparatus

Equipment

- Wiring booth
- Distribution board
- Selection of circuit breakers and RCDs
- Selection of isolators and switches
- Pendant socket-outlet
- 5-pin socket-outlet
- Downlight and ancillary equipment
- Smoke detector
- Digital multimeter
- IR tester
- Battery drill

Materials

- Selection of LV cables, including:
 - TPI
 - Flat TPS
 - Circular TPS
 - Flexible cable
- Selection of wiring supports, including:
 - Cable tray
 - Conduit
 - Catenary wire and supports
- Fittings and fixings for cable tray and conduit
- Snake
- Cable ties
- Cable glands

Miscellaneous Items:

- Hand tools
- PPE
- AS/NZS 3000 (current edition)

	MANAGEMENT UNITS	<ul style="list-style-type: none"> •
		<ul style="list-style-type: none"> • Computer and Internet • Writing equipment pencil , • paper , pen
	GENERAL COMPUTER APPLICATION UNITS	
	ICTICT214 Operate application software packages	<p>Equipment</p> <ul style="list-style-type: none"> • Computer (laptop, desktop or tablet). • Internet access. • External storage <p>Materials</p> <ul style="list-style-type: none"> • USB stick. • Pens/pencils. <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> • Word processor. • Spreadsheet software. • Email account.
	INDUSTRIAL CONTROL SYSTEM UNITS	
		<p>Equipment</p> <ul style="list-style-type: none"> • G Soft GEN NX Software • G Soft GEN NX PLC • Trilogy PLC Software • Scada Software • Distributor frames • Termination blocks • Modular sockets • 50 pair, 20 pair, 4 pair, 2 pair and jumper cables • Catenary system • Suitable earth cables • Hand tools and test equipment • PLC Trainer

		<ul style="list-style-type: none"> ● Circuit simulator software <p>Materials</p> <ul style="list-style-type: none"> ● AS/NZS 3000 (current edition) ● AS/NZS 3008 Part 1.1 (current edition) ● Local Service and Installation Rules (SIR) ● Pens/Pencils ● Ruler ● Calculator ● Manufacturer’s catalogues – switchgear and controlgear ● Screwdrivers ● Krone tool ● Battery drill ● Cable strippers ● Diagonal cutters ● DMM ● F set ● Buttinski <ul style="list-style-type: none"> ● Cable Wizard <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Mounting blocks ● Screws ● Cable ties ● Pens/pencils ● AS/CA S009:2020 ● AS/CA S008:2020
	MICROCONTROLLER UNITS	
		<p>Equipment</p> <ul style="list-style-type: none"> ● 8085 Microcontroller trainer ● Educational Robot Motor Kit ● DSP Teaching Experimental Box <p>Materials</p> <ul style="list-style-type: none"> ● 4 mm² connecting leads

		<ul style="list-style-type: none"> ● Multimeter <p>Miscellaneous Items:</p> <ul style="list-style-type: none"> ● Colour pens/pencil ● Ruler
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	MATERIALS MANAGEMENT UNITS	
	UEECD0004 Apply material science to solving electrotechnology engineering problems	Manufacturer catalogues Excel software to prepare the bills and quantity
	REPORT WRITING UNITS	
	UEECD0010 Compile and produce an energy sector detail	Computer and Internet Writing equipment pencil , paper , pen
	WHS POLICIES	
	UEECD0007 (prerequisite) Apply work health and safety regulations, codes and practices in the workplace UEECD0024 Implement and monitor energy sector WHS policies and procedures UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work	Computer and Internet Writing equipment pencil , paper , pen
	COMPETENCY DEVELOPMENT UNITS	
	UEECD0017 Establish and follow a competency development plan in an electrotechnology engineering discipline UEECD0003 Apply industry and community standards to engineering activities UEECD0056 Apply methods to maintain currency of industry developments	Computer and Internet Writing equipment pencil , paper , pen
	PROJECT UNITS	
	UEECD0014 Develop design briefs for electrotechnology projects UEECD0026 Manage risk in electrotechnology activities UEECD0059 Write specifications for electrical engineering projects UEECO0001 Estimate electrotechnology projects UEEEL0015 Manage large electrical projects UEEEL0058 Plan large electrical projects UEECO0017 Source and purchase	Manufacturer catalogues Design drawings of various projects NSW Electrical Service rules AS3000 AS3008 Electrical Contracting textbook Excel software to prepare the bills and quantity

	material/parts for installation or service jobs	
RENEWABLE ENERGY UNITS		
	<p>UEERE0013 Develop strategies to address environmental and sustainability issues in the energy sector</p> <p>UEERE0064 Design renewable energy heating systems</p> <p>UEERE0066 Develop effective engineering strategies for energy reduction in buildings</p> <p>UEERE0061 Design grid-connected photovoltaic power supply systems</p> <p>UEERE0063 Design off-grid photovoltaic/generating set systems</p>	<p>RE Design System Books</p> <p>Equipment Setup photos</p> <p>System simulation software</p> <p>Solar system mini model</p> <p>Computer and Internet</p> <p>Writing equipment pencil , paper , pen</p>
ELECTRICAL POWER SYSTEM UNITS		
	<p>UEEEL0080 Plan and analyse wiring systems, circuits, control and protection for electrical installations</p>	<p>Power circuit testing system equipment setup photos</p> <p>Power system operation videos</p> <p>Power system protection videos</p> <p>Power line design programs</p> <p>Power system testing equipment procedures and photos</p> <p>Heavy power equipment setup photos/ simulation practical/Excel graphing programs sheets</p>

PLEASE REFER UEE30820 Equipment Lis for the following units

- UEECD0019 Fabricate, assemble and dismantle utilities industry components
- UEECD0020 Fix and secure electrotechnology equipment
- UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
- UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits

The following units are theory based , please Learning reference books

- UEECD0005 Apply physics to solving electrotechnology engineering problems
- UEECD0049 Use advanced computational processes to provide solutions to energy sector engineering problems

Electrical Diploma Practical

<http://www.mongroupsdney1.com/Practical.zip>

Electrical Diploma Practical Equipment

www.iqytechnicalcollege.com/Practical Equipments.pdf

PLC Equipment

PLC Hardware Notes 1

www.iqytechnicalcollege.com/PLC Hardware Notes 1.pdf

PLC Hardware Notes 2

www.iqytechnicalcollege.com/PLC Hardware Notes 2.pdf

PLC Hardware Notes 3

www.iqytechnicalcollege.com/PLC Hardware Notes 3.pdf

PLC Hardware Notes 4

www.iqytechnicalcollege.com/PLC Hardware Notes 4.pdf

PLC Hardware Notes 5

www.iqytechnicalcollege.com/PLC Hardware Notes 5.pdf

PLC Hardware Notes 6

www.iqytechnicalcollege.com/PLC Hardware Notes 6.pdf

Control Circuit Boards

www.iqytechnicalcollege.com/Control Circuit Boards.pdf

Process Control Equipment Setup 1

www.iqytechnicalcollege.com/Process Control Equipment Setup 1.pdf

Process Control Equipment Setup 2

www.iqytechnicalcollege.com/Process Control Equipment Setup 2.pdf