

Title:	Electrical Draughting APPROVED
Long Title:	Electrical Draughting
Module Code:	ELEC6003
Credits:	5
NFQ Level:	Fundamental
Field of Study:	Electrical Engineering
Valid From:	Semester 1 - 2017/18 (September 2017)
Module Delivered in	3 programme(s)
Module Coordinator:	JOSEPH CONNELL
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Module Description:	This module builds an understanding of the role of industry conventions and international standards for engineering drawings and diagrams and thereby fosters a commitment to high working standards and quality documentation in engineering. The module develops the student's capabilities in engineering drawing and thereby facilitates technical communication through engineering drawings and diagrams, especially in the context of electrical and electronic systems.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Load the AutoCAD programme and configure it to suit the needs of the individual user.
LO2	Apply standards applicable to engineering drawings with a variety of electrical and electronic graphical symbols.
LO3	Develop engineering hand-sketch drawing techniques and producing them into formal AutoCAD drawings.
LO4	Produce circuit and wiring diagrams pertinent to electrical and electronic systems in accordance with international standards.
LO5	Develop topographical electrical services drawings for a typical commercial premises.
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	
Co-requisites	

No Co Requisites listed

Module Content & Assessment

Indicative Content

Conventions and standards

- Conventions relating to electrical drawing, document quality, sheet sizes, line type, line width, text, drawing scales.

Standard methods, symbols, layout

- Industry, national and international standards, graphical symbols for electrical and electronic circuits, standard methods of presentation, reference designation, power supply data, terminal marking, cable detail.

Circuit diagrams

- Circuit diagrams, single line and multi-line format, • Circuit diagrams, single line and multi-line format, vertical and horizontal orientation, standardised layout, common features, application to electrical and electronic circuits.

Wiring diagrams

- Wiring diagrams and their relationship to circuit diagrams, standardised layout, terminal identification, cable representation, application to electrical and electronic schemes.

Topographical diagrams

- Topographical diagrams, building plans with service layouts, legends and tables, application to services in residential type premises, electrical panel layout, printed circuit board layout.

Assessment Breakdown

%

Course Work

100.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	Electrical drawing principles, conventions	1,3	10.0	Week 1
Other	Orthographic and section views	1,3,5	10.0	Week 3
Other	Electrical and electronic graphical symbols	1,2,3	10.0	Week 5
Other	Electrical installation and electronic circuits	1,2,3,4	20.0	Week 7
Other	Wiring diagrams, electrical and electronic	1,2,3,4	10.0	Week 8
Other	Power distribution diagrams	1,2,3,4	20.0	Week 10
Other	Apartment plan and electrical service	1,2,3,5	20.0	Week 12

No End of Module Formal Examination

Reassessment Requirement

Coursework Only

This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Electrtical and electronic drawing theory	1.0	Every Week	1.00
Lab	Drawing practical	3.0	Every Week	3.00
Independent & Directed Learning (Non-contact)	Student assignment and review	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

This module has no Part Time workload.

Module Resources
<i>Recommended Book Resources</i>
• Yarwood & Palm, <i>Introduction to AutoCAD 2016</i> , Routledge [ISBN: 1138925853]
<i>Supplementary Book Resources</i>
• Simmons and Maguire, <i>Manual of Engineering Drawing</i> , 4th Ed., Newnes [ISBN: 9780080966526]
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
• Website: <i>Getting Started - The Hitchhiker's Guide to AutoCAD Basics</i> https://knowledge.autodesk.com/support/autocad

Module Delivered in			
Programme Code	Programme	Semester	Delivery
CR_EEPSY_8	<u>Bachelor of Engineering (Honours) in Electrical Engineering</u>	2	Mandatory
CR_EELEC_7	<u>Bachelor of Engineering in Electrical Engineering</u>	2	Mandatory
CR_EELEC_6	<u>Higher Certificate in Engineering in Electrical Engineering</u>	2	Mandatory