DRAW: Engineering Drawing and Information Technology II

Module Title:	Engineering Drawing and Information Technology II
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	Lectures Drawing Practicals Private study

Module Aim:	The aims of the module are: (1) to develop a knowledge of both manual and computer generated engineering drawing. (2) to create, edit and print a variety of technical drawings using a CAD/BIM system. (3) to develop the ability to express knowledge through professional engineering documentation

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	communicate effectively in a modern technical environment;
LO2	construct and present quality engineering drawings in a well drafted manner.
LO3	present correct lettering, figures and dimensions to a defined style and standard
LO4	produce detailed Civil Engineering drawings using appropriate drafting software
LO5	produce appropriately referenced professional documentation
LO6	integrate academic and professional competence in the development of logical argument

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Computer Aided Drafting (a) Introduction to basic CAD concepts in 2D and 3D environments. (b) Basic file management techniques. (c) Use and identify key components of the software relating to the 2D drawing environment. (d) Use the AutoCAD software co-ordinate system to aid accurate drawing. (e) Set up the drawing environment with the correct units in order to start producing drawings. (f) Use absolute/relative/polar X, Y co-ordinate system to produce basic measured objects through keyboard entry. (g) Use AutoCAD function keys. (h) Use hatch, text and simple dimensioning routines. (i) Basic editing and drawing commands. (j) Scale/load linetypes (k) Use a layering system and different linetype styles and assign lineweights. (l) Create/edit basic blocks (m) Create isometric drawings in 2D AutoCAD (n) Use of polar and circle array (o) Introduction to dynamic blocks (p) Enhancing CAD drawings with text, symbols and blocks. (q) Transferring data using the Design Centre. (r) Create basic dimension styles to suit viewport scales. (s) Adding and editing dimensions with different dimensioning styles. (t) Create/edit basic .ctb files (colour dependant plots styles) (u) Share data working with other applications Word and Excel. (v) Using paper space to print a variety of drawing layouts to scale. (x) Scan raster images and import them into AutoCAD. (y) Create and use templates which will set the drawing environment ready for your projects, and an understanding of the benefits of using templates.
Practical CAD drawing exercises (a) Foundation detail (b) Pipe layout and sections (c) Road layout and sections (d) Typical manhole plan and section (e) Typical road gully plan and section (f) Base plate detail
Sketching (a) Paper size, Lettering & title blocks (b) Orthographic projection (c) Isometric and oblique projection (d) Perspective drawing (e) Freehand sketching (f) Basic geometrical solids (g) Development of surfaces (h) Practical freehand sketching exercises
Report Writing Word processing skills; using citations; using text Styles and creating Tables of Contents; understanding research and demonstrating anaytical thinking
Data Analysis and Presentation Using Spreadsheets and manipulating data with furmulae; presenting and comunicating data using slideshows

Assessment Breakdown	%
Practical	100.00%

No Continuous Assessment

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Practical drawing exercises	1,2,3,4,5,6	75.00	n/a
Practical/Skills Evaluation	Practical document preparation	1,6	25.00	n/a

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Practicals	12 Weeks per Stage	1.00
Practicals	12 Weeks per Stage	4.00
Practicals	12 Weeks per Stage	2.00
Independent Learning Time	12 Weeks per Stage	5.50
	Total Hours	150.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMCIV_D	Bachelor of Engineering in Civil Engineering	2	Mandatory