

Module Title:	Civil Engineering Drawing + BIM
Language of Instruction:	English
Credits:	10
NFQ Level:	6
Module Delivered In	2 programme(s)
Teaching & Learning Strategies:	Lectures Practicals Private Study
Module Aim:	The aims of Civil Engineering Drawing portion of this module are: 1) to develop a practical knowledge of creating, editing and printing general arrangement and detailed drawings for Civil Engineering works using AutoCAD. (2) to create and edit basic structural BIM models using Autodesk Revit.

Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Prepare Engineering drawings including general arrangement drawings, reinforcement drawings and (a) sections and standard details; (b) fabrication drawings for structural steelwork elements.
LO2	Prepare longitudinal drainage sections and plans for drainage drawings
LO3	Layout and print drawings using appropriate drawing layers, drawing scales etc
LO4	Create edit and plot views of structural building information models using Autodesk Revit

Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</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.</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.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Structural Steelwork Detailing

a) Structural steelwork section dimensions b) Bolted connections and welded connections c) Beam to column connections, d) Beam to beam connections e) Column to foundation connections,

Drainage and Water Supply Layouts and Sections

a) Foul and surface water layout drawings, b) Longitudinal sections, c) Pipe bedding, backfill and surfacing. d) Manholes, e) Water main layouts f) Sluice Values & hydrant chambers

BIM with Autodesk Revit

a) Creating levels and grids b) Modelling basics c) Revit families d) Structural walls, columns and foundations e) Beams, joists and bracing f) Floor stairs and ramps g) Adding surface terrain h) Structural reinforcement i) Schedules and legends j) Annotation and drafting tools k) Creating views l) Creating sheets plotting and publishing

Computer Applications

a) Software Package AutoCAD b) Software Package AutoCAD Civil 3D

Reinforced Concrete Detailing

a) Detailing of Columns/Beams

Assessment Breakdown

%

Practical

100.00%

No Continuous Assessment

No Project

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Students will prepare models and drawings for various Civil Engineering applications	1,2,3,4	100.00	n/a

No End of Module Formal Examination

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

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Practicals	12 Weeks per Stage	7.00
Independent Learning	12 Weeks per Stage	7.00
Total Hours		168.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMHCE_B	Bachelor of Engineering (Honours) in Civil Engineering	4	Mandatory
CW_CMCIV_D	Bachelor of Engineering in Civil Engineering	4	Mandatory