INFO: BIM, CAD and Information Technology 3

Module Title:	BIM, CAD and Information Technology 3
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	2 programme(s)

Teaching & Learning Strategies:	Studio-based projects & problem-based learning to develop the learners' problem- solving methodology to an advanced level, in an architectural technology context, with one-to-one reviews/tutorials and group/class 'crits' to provide student feedback • Lecture format utilised to provide theoretical instruction in Revit/Cad/BIM/software tools

Module Aim:	The aims of this module are : • To introduce Building Information Modelling (BIM) into studio projects. • To give students the computer skills required to communicate effectively in a modern technical environment. • To develop a basic knowledge of buildings and sustainable site development. • To create a wide range of working drawings and to use detail components in live callout detail views. • To dress up basic elevations and plans using Revit and photoshop and extract entourage objects from photographs. • To familiarize students with all aspects of information technology relating to architectural technology and the architectural practice.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Use modelling techniques and sustainable site development strategies to construct domestic buildings and small scale commercial buildings, using the latest BIM software, Revit Architecture. Learn the process of preparing good quality working drawings of domestic buildings in Revit. • Create and modify walls,,roofs,,floors foundations, dimensions, text, draw accurately, layouts, print, and share drawings with others.
LO2	Use Revit Architecture tools to import and export a wide range of information with other applications and create basic Revit families.
LO3	Create annotation, tags dimension, text and keynotes in BIM and create automated schedules and legends of building components.
LO4	(a) Create sheets: plans, elevations, sections, 3D sections, 2d details, 3D details, 3D views and live callout detail views from BIM models. (b) Produce fully detailed working Architectural drawings.
LO5	Render real-world surface with architectural materials and extract entourage and enhance elevations and plans using Photoshop and Enscape3d or Vray.,3d render packages are subject to change depending on availability in the market

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.*
Requirements Learners must have successfully completed BIM in (both BIM 1 & BIM 2)

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Module Content & Assessment

Indicative Content
Building Information Modelling Use Revit/BIM and sustainable design strategies to construct buildings of medium complexity, focusing on the highest professional standards
BIM Customisation of Systems, Families and Project Settings (a) Get acquainted with the graphical user interface of the latest version of Autodesk Revit Architecture. (b) Setting up project environments. (c) Create basic modelling elements: Covering the following topics; levels, grids, walls, floor, ceiling, roofs, doors, windows, curtain walls, foundation and piling, columns, beams, bracing and truss systems, stairs, ramps and railings. (d) Modifying and creating family geometry in BIM. (e) Creating views, basic legends and schedules. (f) Geometry formation and in-place families.
Create Professional-quality Construction Documentation (a) Control the Revit display and plotting environments. (b) Placing views on sheets, create presentation techniques for plans, elevations, sections, live callout detail views 3D isometric, perspective views, animated sun studies, and simple renderings that let you explore materials and lighting. (c) 2D draughting, annotation and component categories, detail component libraries, repeating details, tags, and keynotes. (e) Publishing, populating sheets, working with schedules and document management.
Wall creation, manipulation and Site Modelling (a) Wall types, working with levels, attaching walls, editing wall shapes. (b) Creating and editing toposurfaces, building pads, regions and sub-regions.

Assessment Breakdown	%
Project	100.00%

No Continuous Assessment

Project

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	Produce a BIM model of a detached two-storey building Produce good quality working drawings of a building type in (BIM), using the studio unit as a vehicle, to establish best practice industrial standards. Explore how the following construction options can be integrated into a building to meet the fundamental requirements of passive standards. • Well insulated building envelope. • Minimised heat loss through thermal bridging. • Significantly reduced structural air infiltration • Optimal use of passive solar and internal heat gains.	1,2,3,4,5	100.00	Sem 1 End

No Practical

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*
Lecture	12 Weeks per Stage	2.00
Tutorial	12 Weeks per Stage	2.00
Estimated Learner Hours	12 Weeks per Stage	6.50
	Total Hours	126.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMARC_B	Bachelor of Science (Honours) in Architectural Technology	3	Mandatory
CW_CMART_D	Bachelor of Science in Architectural Technology	3	Mandatory