| Module Title: | BIM, CAD and Information Technology 4 |
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| Language of Instruction: | English |

| Credits: | 5 |
|---|---|

| NFQ Level: | 6 |
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| 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 |
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| 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. |
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| Learning Outcomes |
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| 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** <br> This is prior learning (or a practical skill) that is recommended before enrolment in this module. |

| 5295 | GRAP H2504 | Graphics, CAD & BIM I |
|---|---|---|
| 6675 | TECH H1507 | Information Technology & CAD |

**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.

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

## Module Content & Assessment

| Indicative Content |
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| **Building Information Modelling**<br>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**<br>(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**<br>(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**<br>(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 |
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| Project | | | | |
| --- | --- | --- | --- | --- |
| Assessment Type | Assessment Description | Outcome addressed | % of total | Assessment Date |
| Project | Apartment Building: General arrangement plans and details, vertical and horizontal details fully annotated. Site layout plan showing access and parking/traffic management, drainage, services, landscape and site finishes. Long and short sections. Use key plans, keynotes, legends and schedules in your presentation. Simulate and visualize design alternatives, analyse performance and create 3D visualisation of buildings and its spaces and show a variety of design options. | 1,2,3,4,5 | 100.00 | Sem 2 End |

| No Practical |
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| No End of Module Formal Examination |
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**SETU Carlow Campus reserves the right to alter the nature and timings of assessment**

## 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](#) | 4 | Mandatory |
| CW_CMART_D | [Bachelor of Science in Architectural Technology](#) | 4 | Mandatory |