

**APPROVED****ARCH6075: CTMS - Elements****Module Details**

<b>Module Code:</b>	ARCH6075
<b>Title:</b>	CTMS - Elements <b>APPROVED</b>
<b>Long Title:</b>	CTMS - Elements
<b>NFQ Level:</b>	Fundamental
<b>Valid From:</b>	Semester 1 - 2020/21 ( September 2020 )
<b>Duration:</b>	1 Semester
<b>Credits:</b>	5
<b>Field of Study:</b>	5810 - Architecture & Urban Environment
<b>Module Delivered in:</b>	<a href="#">2 programme(s)</a>
<b>Module Description:</b>	CTMS Construction Technology Materials and Structure - Elements explores building technology, materials, components and structure for mixed use developments. Completion of finish systems focusing on internal components, including flooring systems, and specific components of construction, including balconies, terraces, division of space and relevant building regulations.

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	Learning Outcome Description
LO1	Apply construction building fabric, systems, components and materials at a detail level to facades
LO2	Apply selection criteria and details for the interior components: floors, partitions, joinery and fixtures.
LO3	Determine the effects of actions on steel beams, trusses and columns in simple construction using the Blue Book.
LO4	Apply construction building fabric, systems, components and materials at a detail level to roofs
Dependencies	
<b>Module Recommendations</b>	
<b>Incompatible Modules</b>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b>	
No requirements listed	

Indicative Content
<p><b>Principles</b> Internal building fabric: thermal comfort and insulation. Ventilation and air infiltration. Energy and airtightness building regulations, U-values, sound and acoustic control, light natural and artificial. Water/moisture and durability. Interior partitions: performance requirements loadbearing and non-loadbearing. Doors, windows. Floor systems domestic and commercial. Distribution of services, range of finishes available. Fire and sound compliance.</p> <p><b>Technology, Materials</b> Structures in Timber, Steel, Concrete and Masonry. Crosswall, Fin Walls, Diaphragm Walls Junctions in Structures and Foundations. Simple Spans in Flooring Systems, One-Way, Two-Way, Trough and Waffle Concrete Floors. Roof Construction in Timber and Concrete for Multi-use Buildings, Pitched Roofs, Hybrid Timber and Steel Roof Construction. Green Roofs. Primary and Secondary Structure. Long Span Frame Construction, Metal Trusses, I-Beams, Castellated, Cellular. Portal Frame Theory. Commercial Roof Coverings, Falls and Drainage. Industrial Ground Floors. Internal Walls, Metal Stud, Partition Systems. Fire Doors, Ironmongery, Means of Escape Lifts and Lift Shafts. Concrete Core Construction Glazing Systems and Joinery Components. Introduction to Curtain Walling Balconies, Terraces, Railings and Guards, Thermal Breaks. Prefabricated Systems, Cross Laminated Timber, Structural Insulated Panels, Cassette Flooring Systems. Building Regulations.</p> <p><b>Structure</b> Actions/loads which structural members in a steel framed or hybrid building are required to resist. Characteristics and design actions and the transfer of such actions/loads through a structural steel/hybrid framed building.</p> <p><b>Regulations</b> Demonstrate compliance with the relevant legislation and technical guidance documents.</p>

**Module Content & Assessment**

Assessment Breakdown	%
Coursework	100.00%

**Assessments**

Coursework			
<b>Assessment Type</b>	Project	<b>% of Total Mark</b>	40
<b>Timing</b>	Every Week	<b>Learning Outcomes</b>	1,2,4
<b>Assessment Description</b> Complete a booklet of details relating to frame construction, various cladding assemblies, balconies, terraces and internal components of construction.			
<b>Assessment Type</b>	Project	<b>% of Total Mark</b>	30
<b>Timing</b>	Week 13	<b>Learning Outcomes</b>	3,4
<b>Assessment Description</b> Analysis, selection and specification of structural elements for a studio project.			
<b>Assessment Type</b>	Short Answer Questions	<b>% of Total Mark</b>	30
<b>Timing</b>	Week 13	<b>Learning Outcomes</b>	1,2,3,4
<b>Assessment Description</b> Complete 2 short answer theory assessments relating to internal elements and facades of frame construction and division of space.			
No End of Module Formal Examination			
Reassessment Requirement			
<b>Coursework Only</b> This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.			

## Module Workload

Workload: Full Time					
Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Lecture Based Learning	Every Week	2.00	2
Lecturer-Supervised Learning (Contact)	Contact	Integrated Studio Workshop	Every Week	1.00	1
Independent & Directed Learning (Non-contact)	Non Contact	Research, Development and Completion of Assignment	Every Week	4.00	4
Total Hours					7.00
Total Weekly Learner Workload					7.00
Total Weekly Contact Hours					3.00

Workload: Part Time					
Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Lecture Based Learning	Every Week	2.00	2
Lecturer-Supervised Learning (Contact)	Contact	Integrated Studio Workshop	Every Week	1.00	1
Independent & Directed Learning (Non-contact)	Non Contact	Research, Development and Completion of Assignment	Every Week	4.00	4
Total Hours					7.00
Total Weekly Learner Workload					7.00
Total Weekly Contact Hours					3.00

## Module Resources

Recommended Book Resources	
<p>Edward Allen and Joseph Iano. (2014), Fundamentals of Building Construction, Sixth. J. Wiley &amp; Sons, Hoboken, NJ, [ISBN: 1118138910].</p> <p>Edward Allen and Patrick Rand. (2016), Architectural Detailing, Drawings by Edward Allen, Joseph Iano, and Patrick Rand, Third. J. Wiley &amp; Sons, Hoboken, NJ, [ISBN: 1118881990].</p> <p>Brown, Rachel and Farrelly, Lorraine. (2012), Materials and Interior Design, Laurence King Publishing, China, [ISBN: 9781856697590].</p> <p>Drew Plunkett. (2015), Construction and Detailing for Interior Design,, Second. Laurence King Publishing, London, [ISBN: 9781780674773].</p> <p>Gerhard Hausladen, Karsten Tichelmann. (2010), Interiors Construction Material, Detail, Germany, [ISBN: 9783034602822].</p> <p>BSRIA. (2013), Blue Book, Eighth. BSRIA, [ISBN: ISSN 1752-272].</p> <p>Derek Seward. (2014), Understanding Structures], Fifth. Palgrave Macmillan, [ISBN: 9780070432536].</p> <p>Stephen Emmitt, Christopher Gorse. (2018), Barry's Introduction to Construction of Buildings, Fourth. Wiley-Blackwell, Oxford, [ISBN: 1118977165]].</p> <p>Eugene Farrell, John A Mc Carthy, Anthony Feely. (2012), Homebond House Building Manual, Seventh. Homebond Technical Services, Dublin, [ISBN: 9780952361480].</p> <p>Arthur Lyons. (2014), Materials for Architects and Builders, Fifth. Routledge, Glasgow, [ISBN: 9780415704977].</p>	
Supplementary Book Resources	
<p>Edward Allen and Joseph Iano. (2017), The Architect's Studio Companion, Sixth. Wiley, Hoboken, [ISBN: 9781119092414].</p> <p>Francis D. K. Ching and Cassandra Adams. (2014), Building Construction Illustrated, Fifth. Wiley, New York, [ISBN: 987111845834].</p> <p>Roy Chudley; Revised by Roger Greeno. (2011), Construction Technology, Eleventh. Pearson Education Ltd., [ISBN: 113890709X].</p>	
This module does not have any article/paper resources	
This module does not have any other resources	

## Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_CARCT_8	<a href="#">Bachelor of Science (Honours) in Architectural Technology</a>	-1	Mandatory
CR_TARCH_7	<a href="#">Bachelor of Science in Architectural Technology</a>	-1	Mandatory