

APPROVED**ARCH7035: Studio: Tech Synthesis**

Module Details	
Module Code:	ARCH7035
Title:	Studio: Tech Synthesis APPROVED
Long Title:	Studio: Tech Synthesis
NFQ Level:	Intermediate
Valid From:	Semester 1 - 2021/22 (September 2021)
Duration:	1 Semester
Credits:	10
Field of Study:	5810 - Architecture & Urban Environment
Module Delivered in:	1 programme(s)
Module Description:	Studio Tech Synthesis is the realisation and refinement of a technical design solution. Production drawings are generated to industry practice standards, general arrangement drawings, specification, scheduling and prefabrication drawings. The scale/type of building would be appropriate to a complex Commercial, Office or Retail Development.

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	Learning Outcome Description
LO1	Integrate research of context, site and environment into technical design strategies.
LO2	Integrate comprehension of current societal concerns on context and environment, their changing nature into architectural technical design.
LO3	Produce technical drawings and written technical documentation in response to a technical design challenge.
LO4	Integrate relevant regulations and legislation into technical design.
LO5	Produce specification document to industry standards
LO6	Incorporate the outcomes of precedent research into technical design solution, by analysing, recording, surveying.
Dependencies	
Module Recommendations	
Incompatible Modules	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
No requirements listed	

Indicative Content
Methodology Context, site research and environmental analysis, building studies, schedules.
Technical Design Ability to prepare a set of technical drawings that accurately conveys the structural system and building fabric for a complex commercial building. Written documentation in the form of scheduling and specification adhering to national standards that explains the technical nature of the building while showing compliance with building regulations and building control. Material selection and specification writing on drawings and generation of specification documents using NBS (National Building Specification) software. Technical and analytical drawings that explore the building fabric, cladding systems, wall build-up, thermal layer, membranes and airtightness.
Principles Prefabrication. Observe, survey, record and analyse case study buildings of various curtain wall glazing systems through site visits and investigation. Precedent study on exemplar buildings. Understanding the design requirements and limitations of different curtain wall systems. Learn the ability to produce a set of technical drawings and specification required to create a set of working drawings for prefabricated curtain wall glazing.
Policies & Legislation Comply with national legislative building regulations, with particular focus on TGD Part A, B, C, D, E, F, H, K, L, M. BS 9999-2008 Code of Practice for fire safety in design of management and buildings. British Standard – Sanitary Installations BS 6465 part 1. Building Bulletin 100 – Schools. Buildings for Everyone (NDA).

Module Content & Assessment	
Assessment Breakdown	%
Coursework	100.00%

Assessments

Coursework			
Assessment Type	Critique	% of Total Mark	45
Timing	Week 6	Learning Outcomes	1,2,3,4,5
Assessment Description Produce finalised technical design solution. Plans, sections, elevations including detailed innovative response to context and site. NBS specification for a building fabric element.			
Assessment Type	Critique	% of Total Mark	30
Timing	Week 10	Learning Outcomes	3,4,6
Assessment Description Produce a precedent study report, a set of technical detail drawings including plans, sections, elevations and complex details for prefabricated curtain wall components.			
Assessment Type	Project	% of Total Mark	25
Timing	Sem End	Learning Outcomes	3,4
Assessment Description Produced annotated scheduling drawings			
No End of Module Formal Examination			
Reassessment Requirement			
Coursework Only 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	Studio based delivery of module	Every Week	1.00	1
Tutorial	Contact	Group tutorial	Every Week	0.50	0.5
Independent & Directed Learning (Non-contact)	Non Contact	Completion of studio assignments	Every Week	12.50	12.5
Total Hours					14.00
Total Weekly Learner Workload					14.00
Total Weekly Contact Hours					1.50

Workload: Part Time					
Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Studio based delivery of module	Every Week	1.00	1
Tutorial	Contact	Group tutorial	Every Week	0.50	0.5
Independent & Directed Learning (Non-contact)	Non Contact	Completion of studio assignments	Every Week	12.50	12.5
Total Hours					14.00
Total Weekly Learner Workload					14.00
Total Weekly Contact Hours					1.50

Module Resources

Recommended Book Resources

Carles Broto. (2011), *New Façades*, Links International, [ISBN: 9788492796830].

Gerald Staib, Markus Rosenthal. (2008), *Components and Systems*, 1st. Birkhäuser, [ISBN: 3764386568].

Mark Lawson, Ray Ogden, Chris I Goodier. (2014), *Design in Modular Construction*, 1st. CRC press, [ISBN: 0415554500].

Bernhard Weller, Kristina Harth, Silke Tasche, Stefan Unnewehr. (2009), *Glass in Building: Principles, Applications, Examples (Detail Practice)*, 1st. Birkhauser, Basel, Swiszerland, [ISBN: 9783034601320].

Jonathan Hetreed, Ann Ross, Charlotte Baden-Powell. (2017), *Architects Pocket Handbook*, 5th. Routledge, London & New York, [ISBN: 9781138643994].

Supplementary Book Resources

Virginia McLeod. (2011), *Detail in Contemporary Glass Architecture*, 1st. Laurence King Publishing, England, [ISBN: 1856697401].

Ulrich Knaack, Sharon Chung-Klatte, Reinhard Hasselbach. (2012), *Prefabricated Systems*, 1st. Birkhäuser, [ISBN: 9783764387471].

Jules Moloney. (2011), *Designing Kinetics for Architectural Façades*, [ISBN: 9780415610346].

This module does not have any article/paper resources

Other Resources

Website, Department of Housing, Planning and Local Government. Technical Guidance Documents, Dublin, Ireland, Department of Housing, Planning and Local Government,
<https://www.housing.gov.ie/housing/building-standards/tgd-part-d-materials-and-workmanship/technical-guidance-documents>

Website, Centre for Excellence in Universal Design., Building for Everyone Series, Dublin, Ireland,
<http://universaldesign.ie/Built-Environment/Building-for-Everyone/>

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_CARCT_8	Bachelor of Science (Honours) in Architectural Technology	-1	Mandatory