

Module Specification

Module Summary Information

1	Module Title	Design Synthesis
2	Module Credits	40
3	Module Level	5
4	Module Code	ARC5034

5	Module Overview
<p>This module will apply the 'user-needs' design philosophy as a framework to enable you to build upon and synthesise core design skills introduced at level 4 of the programme.</p> <p>Design Synthesis will engage our students in the appropriate observational and analytical approaches required to develop user-centred design outcomes. The module will address the philosophy behind human-centred design and will encourage you to develop your own reasoning by putting the 'needs and requirements' of the 'person/client/user' at the centre of the process.</p> <p>Integral to meeting user needs are 'human factors' which are predominantly concerned with anthropometrics and ergonomics. This involves rigorous development and testing and will directly feed into a product/objects usability and successful human interaction. Evidence of research and application of the principles concerning 'human factors,' will be expected as part of your design development.</p> <p>Throughout this module you are encouraged to attend presentations and sessions, which explore the factors that can determine the success of a product or a piece of furniture, in its ability to 'enrich our lives and/or environments'. It is important to identify the elements that can help shape a products/furniture's successful function.</p> <p>To achieve a good level of product usability you will need to test your design ideas and observe user's behaviour, emotions and difficulties. As designers this will enable you to identify attributes and qualities that require improvement. This type of testing also provides designers with the opportunity to see if users interact with a product in any unanticipated ways, which could, if harnessed, help to contribute to the improvement of the design.</p> <p>Appropriately aligned manufacturing methods and production techniques will also be a significant factor within the module and introduces a design constraint conducive to design development considerations.</p>	

6	Indicative Content
<ul style="list-style-type: none"> • Design projects exploring human-centred design research methods and development, supported by lectures, demonstrations and group critiques. • SolidWorks CAD sessions related to design synthesis and industry design communication techniques. 	

7 Module Learning Outcomes		
On successful completion of the module, students will be able to:		
	1	To identify a user-centred design opportunity and research it to generate an appropriate design brief.
	2	To analyse, develop and apply 'human factors' to develop design concepts.
	3	To engage with materials and making that enable the testing and evaluation of design concepts.
	4	To communicate user-centred design outcomes appropriately in two and three dimensions, demonstrating an understanding of the products intended scale of production.

8 Module Assessment			
Learning Outcome			
	Coursework	Exam	In-Person
1-4	X		

9 Breakdown Learning and Teaching Activities	
Learning Activities	Hours
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	140
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	180
Private Study (PS) includes preparation for exams	80
Total Study Hours:	400