

Module Code	MEU44EM9
Module Name	User Centred Design Innovation
ECTS Weighting¹	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	Assistant Professor Kevin Kelly (kevin.kelly@tcd.ie)
<u>Module Learning Outcomes</u> with reference to the <u>Graduate Attributes</u> and how they are developed in discipline	<p>On successful completion of this module, students should be able to:</p> <ol style="list-style-type: none"> 1. Work in in multidisciplinary teams on ambitious, ill-defined and challenging projects 2. Identify key users and stakeholders 3. Identify user needs through a variety of anthropological and ethnographic techniques 4. Conduct patent searches and analyse prior intellectual property 5. Liaise with professional engineers (and other staff in the commercial sector) in a professional and timely manner 6. Assess and synthesise state of the art thought in the broad field of user-centred design. <p>Due to Covid-19, the following changes to the normal teaching methods apply, and the same will apply in case of a new possible lockdown scenario during teaching term:</p> <ul style="list-style-type: none"> • <u>All lectures and tutorials will be delivered online</u> using Blackboard Collaborate Ultra or Microsoft Teams. These sessions will be recorded and available for viewing at a later time. • <u>The end of semester exam modalities will be online/remote, although this is subject to change and will follow College guidelines</u> (60% of the module mark) <p>Graduate Attributes: levels of attainment</p> <p>To act responsibly - Attained</p> <p>To think independently - Attained</p> <p>To develop continuously - Attained</p> <p>To communicate effectively - Attained</p>

¹ [TEP Glossary](#)

Module Content

Aims/Objectives

Engineers and technologists are typically well equipped with fundamental knowledge to develop new products and services. Additionally, they will have experience of the practice of designing new devices, components, systems and programs. However, research shows that most new businesses fail because they fail to clearly identify a user need and to meet that need. This module provides students with the tools to identify users and their needs through a structured approach drawing from the design, ethnography and psychological domains, progressing to rapid prototyping of design concepts for testing with users. Students will work individually and in teams on understanding users and stakeholders in complex multidisciplinary challenges and learning how to bring formulate tractable technical solutions for identified users and needs.

Syllabus

- Introduction to user centred design
- Ideation and the use of personas and POV statements
- Needfinding and benchmarking
- Thought leaders in user-centred design
- Interviewing and observation tools and techniques
- Use of focus groups
- Intellectual Property and patenting

Teaching and Learning Methods

A blended learning approach is used in the module with extensive use made of a virtual learning environment. Structured tuition is delivered through a flipped learning model, where reading/resource material is provided in advance and discussion takes place in a classroom format.

Students will work individually – mainly in the early part of the module, to develop core skills which are then applied in a group context in the remainder of the module. The majority of student learning will take place via independent (including group) work, mentored and guided through weekly meetings and interactions with the teaching team.

Extensive use will be made of external experts and coaches/mentors (former graduates) in both formal and informal settings.

*In the event of continuing issues with Covid-19, some or all of these interactions may move online.

Assessment Details² Please include the following: <ul style="list-style-type: none"> • Assessment Component • Assessment description • Learning Outcome(s) addressed • % of total • Assessment due date 	Assessment Component	Assessment Description	LO Addressed	% of total	Week due			
	Assignments	Continuous Assessment	All	100%				
Reassessment Requirements	Re-assessment will take place through individual projects assigned during the summer period.							
Contact Hours and Indicative Student Workload²	<table border="1"> <tr> <td>Contact hours: ~ 5 hours of structured teaching, 10 hours of presentations or in-class activities and 5 hours of group meetings</td> </tr> <tr> <td>Independent Study (preparation for course and review of materials): 10 hours</td> </tr> <tr> <td>Independent Study (preparation for assessment, incl. completion of assessment): 80 hours</td> </tr> </table>					Contact hours: ~ 5 hours of structured teaching, 10 hours of presentations or in-class activities and 5 hours of group meetings	Independent Study (preparation for course and review of materials): 10 hours	Independent Study (preparation for assessment, incl. completion of assessment): 80 hours
Contact hours: ~ 5 hours of structured teaching, 10 hours of presentations or in-class activities and 5 hours of group meetings								
Independent Study (preparation for course and review of materials): 10 hours								
Independent Study (preparation for assessment, incl. completion of assessment): 80 hours								
Recommended Reading List	None							
Module Pre-requisite								
Module Co-requisite								
Module Website								
Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.								
Module Approval Date	02/07/2020							
Approved by	Nicole Byrne							
Academic Start Year	2020							
Academic Year of Date	2020-2021							

² [TEP Guidelines on Workload and Assessment](#)