ME7B18 Design and Innovation – [10 Credits]
Coordinator: Assistant Prof. Michael Monaghan (monaghmi@tcd.ie)

Semester: 2

Module Organisation
This module runs during semester 2 and comprises of seminars, lectures and project related work-shops

Module Description
This module introduces students to tools and topics within the clinical engineering environment. This module will provide students with an introduction to working within multidisciplinary project teams and provide the opportunity to apply learned knowledge to real world problems within group project work to develop functional prototypes using rapid prototyping technology.

Learning Outcomes
On successful completion of this module, students should have developed:
1. an ability to create and interpret a brief and to make competent judgements and decisions at the design level.
2. an ability to perceive the nature of problems in depth, and to pursue innovative and creative solutions to design problems.
3. to communicate design and research concepts through multiple mediums both, visually and orally to multi-disciplinary teams.
4. an understanding of the relevance of individual research in society and the potential impact on individuals, groups and society
5. skills ranging from concept through realization to produce high quality functional product prototypes using 3D printing technologies.
Module Content

- Introduction to industrial design run by National College of Art & Design (NCAD)
- Group project involving the development of functional device prototypes using rapid prototyping technology; website design, engagement with healthcare and non-profit organisations, and demonstration of projects through public outreach at local science fairs, school-demonstrations, media outlets and social platforms.

Teaching Strategies

The module is taught using a combination of seminars, lectures and project related work

Assessment Modes

- NCAD Project (40% of final grade)- this takes place the full week of 4th March – 8th March
- Group rapid prototyping and outreach project (60% of final grade)