Biomedical Engineering Group Research Project (MPHY0013)

Description
The module is 30 credits, and it runs through term 1 and 2. There are three elements within the module, those are a Design Group Project, a Research Skills Course, and How to Change the World;

The Design Group Project accounts for most of the module. Here, students will be working on a Biomedical Engineering related product for a specific user community, e.g. wheelchair users, MND patients, blind, etc.

In groups, the students will work in all stages of the design, from identifying a product that needs development or improvement, to designing solutions, manufacturing and testing prototypes, addressing IP and regulatory issues and conceiving a route to market;

The learning objectives are:
Demonstrate ability to understand a medical condition;
Demonstrate ability to understand a problem need and their stakeholders;
Demonstrate ability to appraise the problem research outcomes make an informed brief definition;
Demonstrate ability of project management, with definition of a project plan from the start, plan milestones and targets ahead, and a produce steady progress;
Demonstrate ability to lead work package and individual tasks successfully, and manage team members;
Demonstrate ability to collaborate and communicate with others, both team members and supervisors/consultants/users;
Demonstrate informed and broad creativity of ideas, capacity to evaluate them against a criterion, and recommend a design;
Select material applying assistant tools such as CS Edupack;

Key information
- Year: 2018/19
- Credit value: 30 (300 study hours)
- Delivery: UG L6, Campus-based
- Reading List: View on UCL website
- Tutor: Dr Pilar Garcia Souto
- Term: Terms 1 and 2
- Timetable: View on UCL website

Assessment
- Coursework: 80%
- Coursework: 10%
- Coursework: 10%

Find out more
For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of December 2018. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
Identify manufacturing process;
Estimate life span, and assess sustainability and viability of the recommended design;
Critically assess recommended design, predict failing modes, and recommend mitigation solutions, e.g.
via Failure Mode and Effect Analysis;
Prepare professional technical instructions for the manufacture and assembly of the recommended design, this includes 2D and 3D drawings and other technical information;
Produce and assemble (a) prototype(s), and a revised design;
Identify and set up physical tests, models, pilots, etc for proof of concept and to assess the recommended design;
Demonstrate awareness and compliance of legislation and ethical considerations;
Assess business viability and define business and marketing plan;
Identify, carry out and critically analyse the required market research;
Presentation of the final design and project to a panel;
Write deliverables timely and to professional standard levels;
The Research Skills Course provides some taught sessions and small assignments aimed at helping students in their development of skills needed when undertaking a research and/or design project;
The How to Change the World element mark is also accounted here, although this activity takes place entirely during the summer – check IEP website for more details;