



Ollscoil Chathair  
Bhaile Átha Cliath  
Dublin City University



## Integrated MEng Biomedical Engineering - INTRA Programme

The integrated MEng Biomedical Engineering degree is primarily focussed on producing engineers to work on research, design, development and manufacturing of medical devices, however, both interns and graduates work in a wide variety of roles across the broader engineering sector.

### Programme Outline

In the first three years of study (ie prior to their INTRA work placement) all Biomedical Engineering students complete two significant team projects; one in their first year (a multidisciplinary Mobile Robotics project) and one in their third year (a mechanical design-and-build project). They complete modules in Design and CADD (using SolidWorks), Lean and 6 Sigma Manufacturing, Data Analytics for Engineers (including Statistical Quality Control), Measurement and Signal Processing, and Project Development and Regulatory Compliance (including relevant regulatory requirements of the medical device industry).

### INTRA (INtegrated TRaining) Work Placements

Relevant work experience through DCU's internship programme "INTRA" (INtegrated TRaining) is a mandatory element of the MEng Biomedical Engineering. Students are required to complete a ten month INTRA placement at the end of third year, from April to January inclusive. INTRA Students are available for Interview from October onwards.

### Work Areas

They have the ability to work in the following areas:

- Product/Process design
- Medical device design / development /manufacturing
- Project engineering
- Manufacturing system design and implementation
- Quality assurance/management
- Research and development
- Operations management
- Test engineering
- Technical documentation



## Student Availability

Students are available for interview from early October onwards. For more information, contact:

INTRA Unit, Student Support & Development,  
DCU, Glasnevin, Dublin 9. Ireland.

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W: [dcu.ie/intra](http://dcu.ie/intra)

 [in/dcu-intra-office](https://www.linkedin.com/company/intra-dcu)

Year 1	Year 2	Year 3	Year 4	Year 5
Fundamentals of Professional Development	How Life Works 1	Product Design	Project Planning and Research	Fifth Year Project
Project and Technical Drawing	Circuits	Immunology and Cell Biology for Engineers	Surgical Device Technology	Design for Clinical Practice
Numerical Problem Solving for Engineers	Engineering Mathematics III	Mechanics of Machines 2	Advanced Biomaterials and Processing Technology	Image Processing and Analysis
Software Development for Engineers	Energy – An Introduction to Thermodynamics	Measurement and Signal Processing	Operations Research Methods	Research Practice and Methodology
Materials Engineering	Strength of Materials I	Lean and 6 Sigma Manufacturing	Entrepreneurship for Engineers	Artificial Organs and Tissue Engineering
Engineering Mechanics - Statics	Design and CADD	Data Analytics for Engineers	Rehabilitation Engineering	Finite Element Analysis or Heat Transfer and Fluid Mechanics
Introduction to Electronics	Engineering Mathematics IV	Fundamentals of Control	Rehabilitation Engineering	Advanced Finite Element Analysis or Computational Thermo-Fluid Dynamics
Engineering Mathematics I	Mechanics of Machines 1	Product Development and Regulatory Compliance		
Engineering Mathematics II	Strength of Materials II	INTRA		
Basic Sciences for Engineering	Thermofluid Mechanics			
	Biomechanics of Human Movement			
	Understanding the Body 2			