



Ollscoil Chathair  
Bhaile Átha Cliath  
Dublin City University



## Integrated MEng Mechanical and Manufacturing Engineering - INTRA Programme

The MEng degree programme combines Mechanical Engineering and Manufacturing with an emphasis on Computer-Aided Engineering in the final two years.

### Programme Outline

In the first three years of study (i.e. prior to their INTRA work placement) all Mechanical and Manufacturing 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 Engineering Computation (including some advanced Excel and Excel macros), Pneumatics and Control, Design and CADD (using SolidWorks), Lean and 6 Sigma Manufacturing, Data Analytics for Engineers (including Statistical Quality Control), Project and Quality Management, and Project Development and Regulatory Compliance.

### INTRA (INtegrated TRaining) Work Placements

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

### Work Areas

They have the ability to work in the following areas:

- Product/process design
- 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.

T: +353 1 700 6375

E: sarah.fleming@dcu.ie

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 | Engineering Mathematics III                | Product Design                                | Project Planning and Research            | Fifth Year Project                  |
| Project and Technical Drawing            | Design and CADD                            | Mechanics of Machines 2                       | Design for Assembly                      | Finite Element Analysis             |
| Numerical Problem Solving for Engineers  | Energy – An Introduction to Thermodynamics | Measurement and Signal Processing             | Mechanical Engineering System Simulation | Manufacturing System Simulation     |
| Software Development for Engineers       | Strength of Materials I                    | Project and Quality Management                | Operations Research Methods              | Research Practice and Methodology   |
| Materials Engineering                    | Manufacturing Processes 1                  | Lean and 6 Sigma Manufacturing                | Entrepreneurship for Engineers           | Heat Transfer and Fluid Mechanics   |
| Engineering Mechanics - Statics          | Engineering Computation                    | Data Analytics for Engineers                  |  | Advanced Finite Element Analysis    |
| Introduction to Electronics              | Engineering Mathematics IV                 | INTRA   |  | Computational Thermo-Fluid Dynamics |
| Engineering Mathematics I                | Strength of Materials II                   | Fundamentals of Control                       |  |                                     |
| Engineering Mathematics II               | Mechanics of Machines 1                    | Product Development and Regulatory Compliance |  |                                     |
| Basic Sciences for Engineering           | Thermofluid Mechanics                      | <b>INTRA</b>                                  |  |                                     |
|  | Pneumatics and Control                     |   |  |                                     |
|  | Manufacturing Processes 2                  |   |  |                                     |