UCD
Engineering Programmes

BSc Eng, BE, ME

Mechanical Students

8th March 2024

UCD School of
Mechanical and Materials Engineering

UCD School of Mechanical and Materials Engineering

UCD Taught Masters Programmes

ME in Mechanical Engineering

Programme Director

Dr Malachy O'Rourke

malachy.orourke@ucd.ie

Programme Overview

Aims to provide students with the opportunity to gain advanced theoretical, conceptual and practical knowledge in the application of Mechanical Engineering

Emphasis is placed on

- core subject areas such as continuum mechanics, solid mechanics and fluid dynamics
- acquiring the skills required to generate new knowledge through research
- independent and project based learning while working with UCD academics and researchers on contemporary research projects
- professional engineering practice during work placement

Entry Requirements

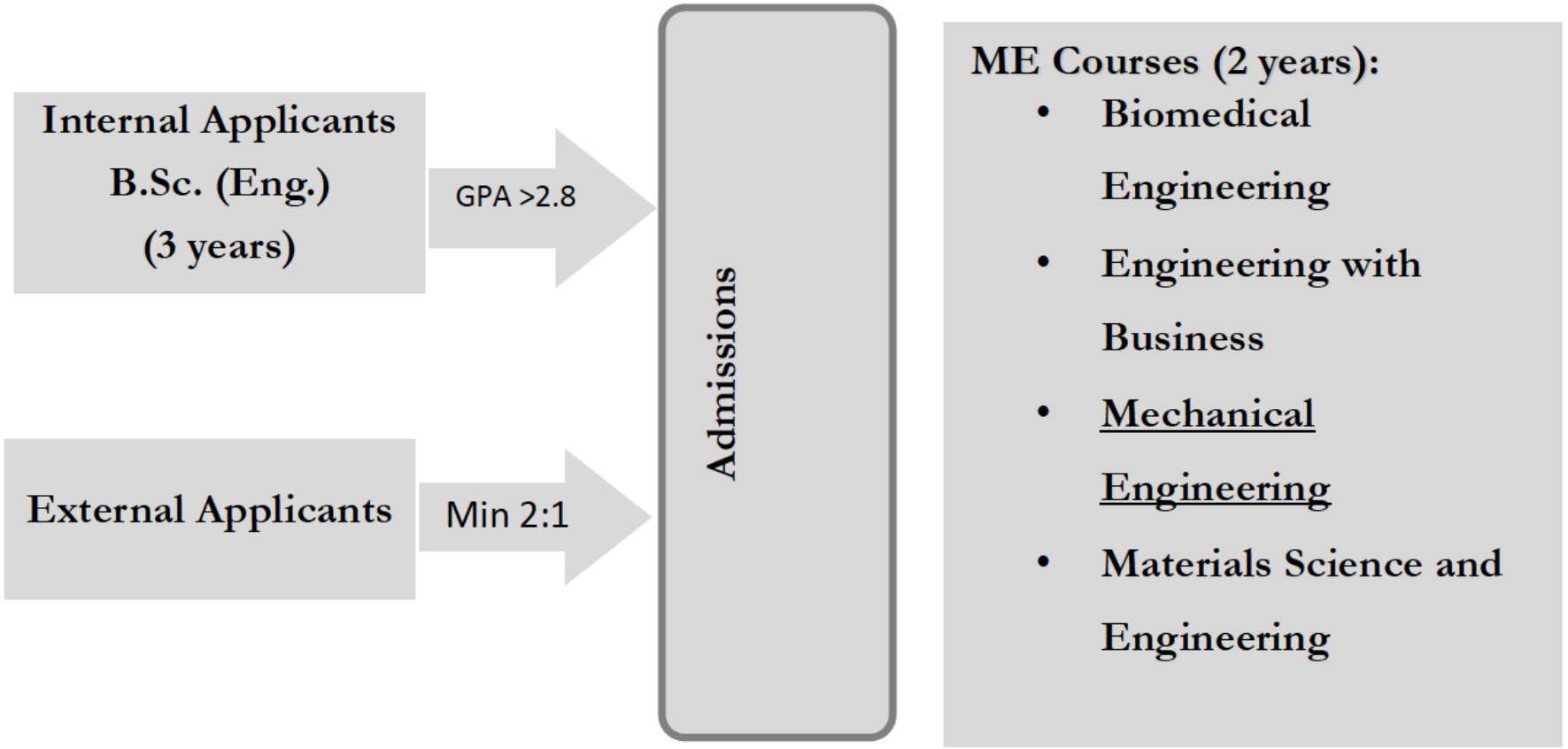

Figure 1 - Mechanical Engineering Education at UCD

Programme Structure

2-Year Full Time Programme (120 ECTS Credits)

Stage 1/Year 1

- 30 credits (6 taught modules) in autumn trimester
- 30 credit work placement in spring trimester

  or

  4 taught modules in spring trimester + 10 credit work placement either during spring trimester or summer trimester

Stage 2/Year 2

- Year long 30 credit research project + research skills and techniques
- 30 credits (6 taught modules) distributed across spring/autumn trimesters

Brief Summary by Credits

- 11 Core Taught Modules (x5 credits) 55 credits
- 2 Option Taught Modules, (x5 credits) 10 credits
- Workplacement 30 credits
- ME Mechanical Thesis 25 credits

Total Credits = 120

Module Choice

Core Modules

- Computational Continuum Mechanics I
- Computational Continuum Mechanics II
- Mechanics of Solids III
- Mechanics of Fluids II
- Mechanics of Fluids III
- Materials Science and Engineering II
- Fracture Mechanics
- Professional Engineering Management
- Manufacturing Engineering II
- Engineering Thermodynamics III
- Control Theory/Process Instrumentation

Option Modules

- Energy Systems and Climate Change
- Applied and Computational Mathematics
- Technical Ceramics
- Kinetics and Thermodynamics of Materials
- Technical Communications
- Advanced Metals/Materials Processing
- Advanced Composites and Polymer Engineering
- Nanomaterials

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Stage 1 (Year 1)

Autumn Trimester
- Engineering Thermodynamics III*
- Mechanics of Fluids II*
- Manufacturing Engineering II*
- Computational Continuum Mechanics I*
- Fracture Mechanics
- Mechanics of Solids III

Spring Trimester
- Professional Work Experience (30 credits)

Stage 2 (Year 2)

Autumn Trimester
- Computational Continuum Mechanics II
- Research Skills and Techniques

Spring Trimester
- Mechanics of Fluids III
- Professional Engineering (Management)

Year Long Module
- ME Mechanical Thesis (25 credits)

Autumn or Spring
- Control Theory
- Option modules 1 & 2

All trimesters are 30 credits.
All modules are 5 credits unless otherwise stated.

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Work Placement

- Takes place during spring trimester of stage 1
- Students apply for positions during autumn trimester of stage 1

Companies involved in work placement to date include:

- Accenture (Dublin & UK)
- BD Medical
- BMR
- Boston Scientific
- Caterpillar (UK)
- CCM (Delaware, USA)
- CTS (USA)
- De Puy
- Dublin Port
- Eirecomposites
- Element 6
- Henkel
- Irish Rail
- Jaguar Landrover (UK)
- MSD
- Nypro Healthcare
- PCH (China)
- ProCut
- Tech Eng Tools
- Technology from Ideas

Module Code	Module Name	Semester	ECTS Credits	Module Coordinator	Lecture Hours	Tutorial Hours	Practical Hours	Autonomous Student
MEEN40700	ME Mechanical Thesis	Year Long	25	Dr Malachy O'Rourke	0	0	0	600
MEEN40560	Research Skills and Techniques	1	5	Prof Lizbeth Goodman	0	10	65	30

Project Assessment

- Interim report (10%)
- Interim presentation (5%)
- Final presentation (15%)
- Final report & oral examination (70%)