



UNIVERSITY COLLEGE DUBLIN  
COLLEGE OF ENGINEERING AND ARCHITECTURE

UCD SCHOOL OF MECHANICAL AND MATERIALS ENGINEERING

**MASTER OF ENGINEERING (Mechanical) DEGREE PROGRAMME  
MTEMP006, T165**

**Duration:** 2 Years (120 Credits)

**Schedule:** Full-Time

**Commencing:** Monday, 10 September 2012

**Programme Co-ordinator & Contact Details:**

Dr. Malachy O'Rourke  
School of Mechanical and Materials Engineering  
UCD Engineering and Materials Science Centre  
University College Dublin  
Belfield  
Dublin 4  
Ireland

**Application Details:** Applications for this programme are through Online Applications [www.ucd.ie/apply](http://www.ucd.ie/apply)

**Entry Requirements:** Candidates holding a Bachelors Degree in Engineering (with a minimum of 2H2 honours level) or an equivalent engineering qualification will be considered.

**Closing Dates:** 15 March 2012 (Round 1 Offers) and 15 July 2012 (Round 2 Offers)

Candidates from outside the European Union are encouraged to apply by 15 March 2012, in order to leave sufficient time for processing of visa applications. More information on the latter point is available at:  
[http://www.citizensinformation.ie/en/travel\\_and\\_recreation/travel\\_to\\_ireland/student\\_visas.html](http://www.citizensinformation.ie/en/travel_and_recreation/travel_to_ireland/student_visas.html)

**Tuition Fees :** €6,120.00 (EU students) per annum, €11,400.00 (Non-EU) per annum (2011-12 figures) For up-to-date information, see <http://www.ucd.ie/registry/adminservices/fees/index.html>

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## OVERVIEW

This two year professional engineering masters aims to provide students with an opportunity to gain advanced theoretical, conceptual and practical knowledge in the application of Mechanical Engineering. The course comprises core and optional taught modules, a research project and professional work experience opportunity. Advanced modules are available in core areas such as thermodynamics, mechanics of fluids, energy systems and climate change, continuum mechanics, and control theory and also in subjects focused on materials science and engineering, including nanomaterials, technical ceramics, metals processing, composites and polymers. Work placement is planned to take place in semester 2 of stage 1 for minimum of 6 months. Emphasis is placed on the skills required to generate new knowledge through research. This is achieved through independent and project based learning while working with UCD academics and researchers on contemporary research projects. Graduates from this programme will be fully qualified as professional engineers, capable of working anywhere in the world at an advanced technical level or as a professional engineering manager.

## COURSE CONTENT

The ME (Mechanical Engineering) programme involves lectures, tutorials, assignments and laboratory work. A critical component of the programme is a significant research project carried out during the second year. A wide range of core and optional modules are included in this programme.

## MODULES

Please note that further details on course structure and module descriptors may be obtained at <http://www.ucd.ie/programmes/T165>

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Module Code	Module Title	Core/Option	Core Credits	Option Credits	Semester
MEEN40230	Research Project / Thesis - Part 1	(C)	25		1&2
MEEN40560	Online Research Skills and Techniques	(C)	5		1
MEEN40530	Professional Work Experience	(C)	30		2
MEEN20020	Manufacturing Engineering I	(C)	5		1
MEEN30140	Professional Engineering (Finance)	(C)	5		1
MEEN30090	Material Science and Engineering II	(C)	5		1
MEEN30100	Engineering Thermodynamics II	(C)	5		1
MEEN40020	Mechanics of Fluids II	(C)	5		1
MEEN40030	Manufacturing Engineering II	(C)	5		1
MEEN40050	Computational Continuum Mechanics I	(C)	5		1
EEEN40010	Control Theory	(O)		5	1
MEEN30030	Mechanical Engineering Design II	(O)		5	1
MEEN40060	Fracture Mechanics	(O)		5	1
MEEN40080	Technical Ceramic	(O)		5	1
MEEN40090	Energy Systems and Climate Change	(O)		5	1
MEEN40160	Kinetics & Thermodynamics of Materials	(O)		5	1
MEEN40170	Mechanics of Solids III	(O)		5	1
MEEN20050	Heat Transfer	(O)		5	1
MEEN20060	Mechanical Engineering Design I	(C)	5		2
MEEN30010	Applied Dynamics II	(C)	5		2
MEEN30020	Mechanics of Solids II	(C)	5		2
MEEN40040	Material Science & Engineering III	(C)	5		2
MEEN40430	Professional Engineering (Management)	(C)	5		2
CHEN30140	Process Instrumentation	(O)		5	2
MEEN40110	Advanced Composites and Polymer Engineering	(O)		5	2
MEEN40150	Computational Continuum Mechanics II	(O)		5	2
MEEN40180	Nanomaterials	(O)		5	2
MEEN40190	Mechanics of Fluids III	(O)		5	2
MEEN40010	Engineering Thermodynamics III	(O)		5	2
MEEN40070	Advanced Metals/Materials Processing	(O)		5	2

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*Please note the Modules listed above are from the 2011/2012 academic term and are indicative only and that final selection of modules is subject to consultation with and prior approval by the Programme Co-ordinator.*

### **TEACHING AND ASSESSMENT**

#### **Teaching**

Teaching will be by means of lectures, supervised laboratories, tutorials, assignments and self directed learning. An individual Research Project (25 credits) will be assigned to each student, supervised by a member of academic staff and undertaken during the second year of the programme.

#### **Assessment**

Assessment will be by means of continuous assessment of assignments, laboratory and project work. There will be substantial written examination of course material. The Research Project module will require submission of a substantial final report / thesis. Assessment of this module will also involve participation in seminar / poster presentations and oral examination.

#### **Timetable / Hours**

The programme is modular and semesterised with full-time hours. There are two teaching semesters, i.e. Semester 1 (Autumn) and Semester 2 (Spring). Details of the official University calendar for 2012/2013 are as follows:

##### **Semester 1**

Teaching term 1 Monday, 10 September 2012 – Friday, 30 November 2012 (12 weeks)

Revision Saturday, 1 December 2012 – Friday, 7 December 2012 (1 week)

Exams Monday, 10 December 2012 – Friday, 21 December 2012 (11 working days)

##### **Semester 2**

Teaching term 2a: Monday, 21 January 2013 – Friday, 8 March 2013 (7 weeks)

Fieldwork/Study period Monday, 11 March 2013 – Sunday, 24 March 2013 (2 weeks)

Teaching term 2b Monday, 25 March 2013 – Friday, 26 April 2013 (5 weeks)

Revision Monday, 29 April 2013 – Sunday, 5 May 2013 (1 week)

Exams Tuesday, 7 May 2013 – Saturday, 18 May 2013 (11 working days)

#### **Summer term/Research period**

Term Monday, 20 May – Sunday, 8 September 16 weeks

Graduate exam process<sup>5</sup> (final dates to be confirmed)

**1** October Bank Holiday: Monday, 29 October 2012

**2** St Patrick's Day, Sunday, 17 March 2013

**3** Good Friday, 29 March 2013; Easter Sunday, 31 March 2013; Easter Monday, 1 April 2013

**4** May Bank Holiday: Monday, 6 May 2013

**5** June Bank Holiday: Monday, 3 June, 2013; August Bank Holiday: 5 August 2013

### **AWARD**

Graduates are eligible for the award of Masters of Engineering (ME) in Mechanical Engineering from University College Dublin.

### **FURTHER INFORMATION**

For further information in relation to this programme, please contact the UCD Engineering and Architecture Programme Office Tel: (+353) 1 716 1868 or Email: [eng.arch@ucd.ie](mailto:eng.arch@ucd.ie)