



UNIVERSITY COLLEGE DUBLIN
COLLEGE OF ENGINEERING AND ARCHITECTURE

UCD SCHOOL OF ELECTRICAL, ELECTRONIC AND COMMUNICATIONS ENGINEERING

**MASTER OF ENGINEERING (ELECTRICAL ENERGY ENGINEERING) DEGREE PROGRAMME
MTEMP006, T274**

Duration: 2 Years (120 Credits)

Schedule: Full-Time

Commencing: Monday, 10 September 2012

Programme Co-ordinator & Contact Details:

Dr Damian Flynn
School of Electrical, Electronic and Communications Engineering
UCD Engineering and Materials Science Centre
University College Dublin
Belfield
Dublin 4
Ireland

Application Details: Applications for this programme are through Online Applications at: 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

Tuition Fees: €6,120.00 (EU students) per annum, €11,400.00 (Non-EU) per annum (2012-13 figures) For up-to-date information, see <http://www.ucd.ie/registry/adminservices/fees/index.html>

OVERVIEW

There is a national and global demand to drive the transition towards sustainable power systems, integrating diverse generation and demand-side technologies while maintaining the stability and economic operation of future power systems. Engineers are at the forefront of this revolution in thinking, and the ME Electrical Energy Engineering will provide the educational foundation for professional engineers who wish to work in the power system and smart grid sectors. The 2 year professional engineering masters comprises subject areas relating to power system analysis & design, power electronics applications & design, sustainable power systems, smart grid communication architectures and electricity market operations, in addition to a major research project and a professional work experience opportunity.

When taken after a suitable preparatory programme, the ME programme is designed to provide an engineering qualification fully compliant with the Masters level accreditation requirements of Engineers Ireland, and is targeted at students seeking to obtain a professionally recognised qualification in Electrical Energy Engineering.

COURSE CONTENT

A wide range of core and optional modules are included in the ME Electrical Energy Engineering, covering many aspects of electrical engineering, power systems and power electronics, renewable energy sources and smart grid applications. Topics such as control engineering, wireless systems, software engineering, fossil fuel extraction, carbon sequestration and storage and engineering management, amongst others, are also addressed within the programme. The programme is delivered through lectures, tutorials, assignments, supervised laboratories and self-directed learning, with a critical component being a significant research project carried out during the second year.

MODULES

Module Code	Module Title	Core/Option	Core Credits	Option Credits	Semester
EEEN40010	Control Theory	(C)	5		1
EEEN40080	Power System Operation	(C)	5		1
EEEN40090	Power System Design	(C)	5		2
EEEN40100	Power Electronics and Drives	(C)	5		1
EEEN40110	Renewable Energy Systems	(C)		5	1
EEEN40120	Apps of Power Electronics	(C)		5	2
TBC	ME Electrical Energy Thesis	(C)	25		1 & 2
MEEN30100	Engineering Thermodynamics II	(C)	5		1
MEEN40430	Professional Engineering (Mgt)	(C)	5		2
ACM40290	Numerical Algorithms	(O)		5	1
COMP30040	Networks and Internet Systems	(O)		5	1
COMP30390	Enterprise, Innovation and Entrepreneurship	(O)		5	1
TBC	Software Engineering	(O)		5	1
ECON41710	Energy Economics	(O)		5	2
EEEN20060	Communication Systems	(O)		5	2
EEEN30050	Signal Processing	(O)		5	2
EEEN30070	Power System Engineering	(O)		5	2
EEEN30090	Electrical Machines	(O)		5	1
EEEN30100	Solid-State Electronics II	(O)		5	2
EEEN30120	Analogue Electronics	(O)		5	2
EEEN40050	Wireless Systems	(O)		5	1
EEEN40130	Advanced Signal Processing	(O)		5	2
TBC	Professional Work Experience (long)	(O)		30	2
TBC	Professional Work Experience (short)	(O)		10	2
GEOL40310	Fossil Fuels, Carbon Capture and Storage	(O)		5	1
MEEN20030	Applied Dynamics I	(O)		5	2
MEEN30010	Applied Dynamics II	(O)		5	2
MEEN40090	Energy Systems & Climate Change	(O)		5	1
STAT20100	Inferential Statistics	(O)		5	2

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Please note the Modules listed above 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. There will also be a period of work placement (typically 30 credits) in a relevant industry.

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 engineering project module will be assessed at student presentations (oral and poster) as well as by 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 2012¹ (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 March² 2013 (2 weeks)

Teaching term 2b Monday, 25 March 2013 – Friday, 26 April³ 2013 (5 weeks)

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

Exams Tuesday, 7 May⁴ 2013 – Saturday, 18 May 2013 (11 working days)

Summer term/Research period

Term Monday, 20 May – Sunday, 8 September⁶ (16 weeks)

Graduate exam process⁵ (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 Master of Engineering (ME) in Electrical Energy 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