



UCD SCHOOL OF ARCHITECTURE, LANDSCAPE AND CIVIL ENGINEERING

**MASTER OF ENGINEERING (Civil) DEGREE PROGRAMME
MTEMP006, T161**

Duration: 2 Years

Schedule: Full Time

Commencing: Monday, 12 September, 2011.

Programme Co-ordinator & Contact Details: Dr. Kenneth Gavin
School of Architecture, Landscape and Civil Engineering
UCD Newstead Building
University College Dublin
Belfield
Dublin 4
Ireland

Application Details: Applications for this programme are through Online Applications
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 Date: 15 July 2011.

For candidates wishing to avail of an 'early offer', applications received by **15 March 2011** will be considered and communicated to candidates, where appropriate.

Fees (2011-12): €6,120.00 (EU) per annum, €10,200.00 (Non-EU) per annum.
Website: <http://www.ucd.ie/registry/adminservices/fees/2011/index.html>

OVERVIEW

The new ME course in civil engineering at UCD will:

1. Produce graduates with specialist knowledge in the area of Structural or Water and Environmental Engineering
2. Develop future leaders of the civil engineering profession by developing complimentary skills in the area of business, law and professional practice
3. Develop links with industry to facilitate a multi-disciplinary, project oriented learning environment

The programme has a 2-year, single stage, four semester framework, with 30 credits per semester and is suitable for graduates with a 3-year BSc (Engineering Science) degree or a 3-year Bachelor of Engineering degree (Civil) (equivalent to 180 ECTS credits) who wish to obtain a professionally recognised qualification fully compliant to masters level. A comprehensive list of pre-requisites is available and prospective applicants should consult UCD Engineering Programme office with queries regarding eligibility.

COURSE CONTENT

In the first semester of the ME programme a series of core Civil Engineering Design courses (CED 1 – 4) are taken. These build on the theoretical principles (structures, water and geotechnics) developed during the BSc. programme and apply these to real design problems. Whilst the learning in CED’s 1 to 3 is classroom based, with the instructors using real-life case histories to develop design skills, a Problem Based Learning (PBL) capstone course is run parallel with these modules. The PBL course has a open-ended question format, where each week an expert from industry gives a brief for a real engineering design problem and the students (in groups of four to six) have 5 days to compile a scheme (outline) design which has to be presented to the external expert and their classmates in a questions and answers type interruptible format. The second semester offers considerable scope for specialisation through discipline specific electives which allow the coverage of advanced concepts. These are designed to allow the students to develop their theoretical and design skills in one area of specific interest (Structures or Water). The major research project in semester 3 involves preparing a research proposal, performing a literature review and summative critique of the literature, completing experimental work, analysis and interpretation and compiling a thesis. The design project in semester 4 involves a two-person group completing the design of a significant structure or system.

MODULES

UCD Code	Module Title	Core / Option	Core Credits	Option Credits	Sem-ester
Semester 1					
CVEN40150	Civil Engineering Design I	C	5		1
CVEN40160	Civil Engineering Design II	C	5		1
CVEN40170	Civil Engineering Design III	C	10		1
CVEN40180	Civil Engineering Design IV	C	5		1
	1 Option from				
CVEN40320	Materials and Design	O		5	1
EEME30040	Professional Engineering Finance	O		5	1
BSEN30240	Waste Management	O		5	1
MAPH30160	Mathematics for Engineers IV	O		5	1
AESC40080	EIS and Strategic Environmental Asses.	O		5	1
CVEN40310	Structural Design and Analysis	O		5	1
CVEN40330	Construction Management	O		5	1
	Semester 2 (30 credits from)				
CVEN40440	Professional Engineering Work Experience	O		5	2
CVEN40060	Transport Operations and Planning	O		5	2
CVEN40210	Soil Mechanics and Geotechnical Engineering	O		5	2
CVEN40040	Bridge Engineering	O		5	2
CVEN40050	Structural Design (Buildings)	O		5	2
CVEN40070	Unit Treatment Processes	O		5	2
CVEN40080	Hydraulic Engineering Design	O		5	2
CVEN40430	Soil-Structure Interaction	O		5	2

Semester 3					
	Research Project	C		20	3
	Research Skills and Techniques	C		5	3
	One Semester 1 Option	O		5	3
Semester 4					
	Design Project	C		10	4
	Two Semester 2 Options and two electives	O		4 x 5	4

Please note that final selection of modules is subject to consultation with and prior approval by the Programme Co-ordinator.

TEACHING AND ASSESSMENT

Teaching

Teaching takes place in a mix of traditional lecture theatres, through group work, tutorials and with significant use of enquiry based learning, with students working in small groups. A large individual research project is completed in semester 3.

Assessment

Whilst a wide range of assessment methods are used across the modules, the following critical elements have been considered in the design of the assessment procedure in order to enhance the quality of student learning:

- (1) The use of formative (forward-looking) assessment using real-life problems where possible
- (2) Self-assessment is used as an aid the students in evaluating their own performance
- (3) The standards required to demonstrate excellence are clearly defined
- (4) Regular, timely, detailed and constructive feedback is provided on coursework

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 2011/2012 are as follows:

Semester 1

Teaching term Monday, 12 September – Friday, 2 December 2011 ₁	12 weeks
Revision Saturday, 3 December – Friday, 9 December	1 week
Exams Saturday, 10 December – Wednesday, 21 December	10 working days
Christmas break (final dates to be confirmed)	
Semester 2 exam process 5 Monday, 2 Jan 2012 – Tuesday, 17 Jan 2012 (final dates to be confirmed)	

Semester 2

Teaching term Monday, 16 January – Friday, 2 March	7 weeks
Fieldwork/Study period Monday, 5 March – Sunday, 18 March 2012 ₂	2 weeks
Teaching term Monday, 19 March – Friday, 20 April ₃	5 weeks
Revision Monday, 23 April – Sunday, 29 April	1 week
Exams Monday, 30 April ₄ – Saturday, 12 May	11 working days

Summer term/Research period

Term Monday, 14 May – Sunday, 2 September ₅	16 weeks
Graduate exam process ₅ (final dates to be confirmed)	

- 1 October Bank Holiday: Monday, 31 October 2011
- 2 St Patrick's Day: Saturday, 17 March 2012
- 3 Good Friday, 6 April 2012; Easter Sunday, 8 April 2012; Easter Monday, 9 April 2012
- 4 May Bank Holiday: Monday, 2 May 2012
- 5 June Bank Holiday: Monday, 4 June, 2012; August Bank Holiday: 6 August 2012

AWARD

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

CAREER OPPORTUNITIES

Graduates of this course will be employed in Civil Engineering Consulting firms, Local Authorities, Contractors. Many graduates may choose to follow careers outside of civil engineering typically in finance and management roles.

FURTHER INFORMATION

For further information in relation to this programme, please contact Dr Kenneth Gavin at kenneth.gavin@ucd.ie