

Full Title	Professional Civil Engineering Practice		
Status	Draft	Start Term	2020
NFQ Level	08	ECTS Credits	40
Module Code	CIVE08076	Duration	52 Weeks - (52 Weeks)
Grading Mode	Numeric	Department	Building & Civil Engineering
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Module Description

This module will be undertaken by the student whilst in the workplace and will allow the student to demonstrate that they have achieved the Engineers Ireland programme outcomes of accredited Level 8 programmes for the purpose of applying for the professional title of Chartered Engineer following completion of an accredited Masters and initial professional development (IPD).

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Apply knowledge and understanding of engineering principles.
2. Identify, formulate, analyse and solve engineering problems.
3. Design a system, component or process to meet specified needs.
4. Conduct guided research and critically evaluate engineering problems.
5. Recognise and explain the social and ethical responsibilities of engineering towards people and the environment.
6. Demonstrate ability to work effectively as an individual, in teams and in multi-disciplinary settings.
7. Communicate effectively with respect to engineering activities.

Indicative Syllabus

The syllabus is based on the Engineers Ireland (EI) programme outcomes (a-g) for Level 8 engineering programmes which meet the educational standard for Chartered Engineer.

EI PO (a): Knowledge and understanding of the mathematics, sciences, engineering sciences and technologies underpinning their branch of engineering

EI PO (b): The ability to identify, formulate, analyse and solve engineering problems.

EI PO (c): The ability to design a system, component or process to meet specified needs.

EI PO (d): The ability to design and conduct experiments and to conduct guided research, or advanced technical activity.

EI PO (e): An understanding of the need for high ethical standards in the practice of engineering, including the responsibilities of the engineering profession towards people and the environment

EI PO (f): The ability to work effectively as an individual, in teams and in multidisciplinary settings, together with the capacity to undertake lifelong learning.

EI PO (g): The ability to communicate effectively on specialised engineering activities with the engineering community and with society at large.

Teaching and Learning Strategy

Year long module (Sept-Sept).

This module will be undertaken by the student whilst in the workplace and will consist of several components which allow the student to demonstrate that they have achieved the EI programme outcomes a-g. At the start of the programme, there will be an induction workshop in September for student and employer mentors to explain the seven EI programme outcomes a-g and explore how the student can achieve the programme outcomes in the respective workplace environment. The employer must ensure that the student has the appropriate workplace structures in place to ensure that they can meet the EI programme outcomes. Following the induction workshop, the employer and student must sign a tri-partite agreement that they understand the aims and objectives of the programme and that they believe they have the necessary resources and supports to achieve the programme outcomes whilst in the workplace. A workplan must be submitted by the employer and student which details how the EI programme outcomes a-g will be attained in the workplace. The workplan must be approved by GMIT.

All students will be assigned an academic mentor from GMIT who will visit the student and employer in both the first semester (Oct-Dec) and second semester (Jan-Mar) to assess how the work-based learning strategy is progressing and identify any revisions to the process which may be required.

The module will consist of the following components:

- InductionWorkshop (GMIT)
- Online lectures
- Student Logbook (online)
- Interim Reports (online) indicating progress towards reaching the learning outcomes and any difficulties encountered
- Workplace Visits by GMIT academic mentor (minimum of 2)
- Engineering Practice Report
- Professional Presentation
- Professional Interview

A series of online lectures and resources will be available to the students which gives guidance in relation to the type of work-based tasks which can be used to demonstrate achievement of the EI programme outcome and also in relation to report writing, presentation skills and interview techniques. The online lectures may be accessed 'live' or view a recording.

Students must demonstrate that they have achieved the seven EI programme outcomes (a-g) to pass the module.

Students must pass the Engineering Practice Report element to pass the module.

Assessment Strategy

Interim Reports (Uploaded via Moodle) - 10%

Students uploaded interim progress report (2No.) which outlines progress towards achieving the EI programme outcomes and any challenges or difficulties which they may encounter. The interim reports will form the basis for discussion during the workplace visits by the academic mentor.

Engineering Practice Report - 60% - MUST PASS ELEMENT

Students must explicitly demonstrate attainment of the EI programme outcomes (a-g). The report template will require student to address how each programme outcome was achieved in the workplace.

Professional Presentation & Interview - 30%

Student must deliver professional presentation to academic panel demonstrating attainment of the EI programme outcomes (a-g) in the workplace. Student will be interviewed by academic panel following presentation to assess the knowledge and understanding of the student with respect to the EI programme outcomes.

Repeat Assessment Strategies

Students who do not submit the Engineering Practice Report in September may submit in December or following September.

Students who do not pass the Engineering Practice Report element in September may re-submit following detailed feedback in December or following September.

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Written Report	Interim Reports	10 %	OnGoing	1,2,3,4,5,6,7
Written Report	Engineering Practice Report	60 %	End of Term	1,2,3,4,5,6,7
Interview	Professional Presentation & Interview	30 %	End of Term	1,2,3,4,5,6,7
Blended Delivery Mode Average Weekly Workload:		1.19 Hours		

Type	Description	Location	Hours	Frequency	Weekly Avg
Tutorial	Workshop	Flat Classroom	2	Once Per Module	0.04
Supervision	Workplace Visit	Not Specified	2	Once Per Semester	0.15
Supervision	Supervision (0.5hr per week)	Not Specified	0.5	Weekly	0.50
Online Learning	Online resources related to programme outcomes	Not Specified	1	Fortnightly	0.50
Independent Learning	Work-based learning and research	Not Specified	8	Weekly	8.00

Required Reading Book List

Davies, W., Dunn, K., (2011). *Communication Skills*. Pearson Education.
ISBN 0273729527 ISBN-13 9780273729525

van Emden, J., (2005). *Writing for Engineers*.
ISBN 1403946000 ISBN-13 9781403946003

Naoum, G., (2012). *Dissertation Research and Writing for Construction Students*. Routledge.
ISBN 9780415538442 ISBN-13 0415538440

Engineers Ireland , (2014). *Accreditation Criteria for Professional Titles* 2nd Edition. Engineers Ireland .

Online Resources

Online resources will be provided to students on Moodle.
<https://library.gmit.ie/support/academic-writing-centre/>

Other Resources

GMIT HD in Civil Engineering Manual

Programme Membership