WKPL C4501: Engineer in Society + Work Placement

Module Title:	Engineer in Society +Work Placement
Language of Instruction:	English

Credits:	10

NFQ Level:	8

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	Lectures; Project work; Presentations; Private study.

Module Aim:	The aims of the Engineer in Society portion of the module are: (1) to develop a knowledge of the ethical responsibilities of the Engineer; (2) to develop a knowledge of the legal issues associated with the construction industry; (3) to develop a basic understanding of contract law; (4) to develop a greater knowledge of the principles and practice of project management and health and safety; (5)to improve the students written analysis skills; (6) to enable students to gain the confidence and techniques needed to deliver high-quality professional presentations; (7) to enable students to discuss the theories underpinning good communication; (8) to appreciate the role of engineers in development aid and (9) to appreciate and apply the principles of sustainable design in engineering. The aim of the Work Placement portion of this module are: (1) to introduce students to the practical world of the industry; (2) to allow them gain valuable, relevant work experience; (3) to develop the commitment, skills, knowledge and competencies required to perform as professionals in the civil engineering/construction industry.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	appreciate (a) ethical issues associated with the Engineering profession; (b) legal issues relevant to Engineering practice, in areas such as Tort, Nuisance, Negligence and Contract Law;
LO2	prepare, implement and manage a Health and Safety plan; demonstrate a knowledge of the requirements, duties, responsibilities and competencies associated with SAFE PASS;
LO3	apply the (a) principles of sustainable design to the Engineers Without Borders (EWB) Design Challange and appreciate the role of engineers in development aid; (b) knowledge and competencies gained during their studies to function within a professional work environment as part of a team;
LO4	record, reflect on, analyze and report on the learning experience from the work placement; communicate effectively in a logical, precise and coherent manner both orally and in writing;
LO5	research (a) and source a work placement with a suitable organization; (b) and submit a proposal for their dissertation;
LO6	demonstrate (a) an understanding of human resource management, project management, safety management and the management of other resources in a construction environment; (b) commitment, initiative and professionalism whilst interacting with their employer, work colleagues and clients;

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
(1) The work placement must be approved by the Programme Placement Supervisor before commencement. (2) The Employer's consent to act as Industrial Mentor must be provided in writing before commencement of the work placement. (3) The work to be performed under the work placement must be of a technical or managerial nature relevant to the Programme.

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Module Content & Assessment

Indicative Content
(1) The Engineer in Society (a) Roles & Responsibilities; (b) Code of Ethics; (c) Professional Conduct
(2) Nature and Sources of Irish Law (a) Categories of Law; (b) Sources of Irish Law; (c) Outline of legislation associated with construction, property and buildings.
(3) Law of Contract (a) Formation, Contents and Validity of a Contract; (b) Discharge of Contract and Breach of Contract; (c) Contractual Claims; (d) Arbitration and Conciliation
(4) Law of Property and Tort (a) Basics of Law of Property; (b) Basics of Law of Tort; (c) Insurances (including Professional Indemnity)
(5) Project Management (a) Elements of good project management, discussion of case studies
(6) Safety Management (a) Project health and safety documentation; (b) Management of health and safety; (c) Designers and contractors health and safety systems
(7) Communications (a) Communication Theory; (b) Scientific Writing and Reading; (c) Writing Skills; (d) Presentation Skills, Discussion and interaction skills, media awareness and handling
(8) Appreciation of the role of Engineers in Developing Countries Students will undertake a practical design challenge in a developing country through engagement with Engineers Without Borders Ireland (EWB Ireland). They will be tasked with developing viable design concepts to solve societal challenges in the focus region. This will require creative thinking, drawing together a wide spectrum of sustainable engineering principles in order to produce practical and well-balanced design proposals. Typical themes are: Climate Resilient Infrastructure • Self Supply Water and Sanitation • On and Off (Micro) Grid Energy Systems • Food Security. The module is front loaded with a series of lectures/workshops related to sustainable design and appropiate engineering in a developing world country. Student self assessment required.
(9) Employment Application Process (a) Researching job prospects; (b) Exploiting and recognizing the importance of contacts; (c) Recognizing personal experience as valuable to potential employers.
(10) Evaluating potential employers (a) Sources - where can this information be found.
(11) Interview skills (a) Preparation, Practice, Video analysis, Professional Evaluation - Careers Office
(12) CV preparation (a) How to sell skills quickly and concisely, letter of introduction
(13) Personal Development (a) Application of knowledge and competencies gained from previous studies; (b) Undertaking allocated work tasks in a committed and professional manner; (c) Active participation in assisting with the solution of work place problems; (d) Functioning in a variety of roles within teams; (e) Communicating in a professional manner.
(14) Record Learning (a) Record on going Learning on a daily/weekly basis as it occurs during work placement. (Logbook)
(15) Reflection (a) Present evidence of reflection of learning and experience gained through work placement. (Presentation and Written report)

Assessment Breakdown	%
Continuous Assessment	100.00%

Special Regulation
(1) Advanced entry students who are not registered for the Work Placement module will be required to document and verify their experience at technical or managerial level and submit a critical review report & presentation. (2) If a student is unable to undertake the Work Placement they will be required to undertake a project on a civil engineering/construction related area. The projects may involve creating drawings, working out layouts, load take downs, hand design calculations, using design software or significant research. It is intended that this project will be done independently, with minimal involvement from any academic staff. All submissions will include a minimum of a 5000 word professionally written report and a presentation.

Continuous Assessment				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	Engineer in Society - Exam 1	1,4	10.00	n/a
Examination	Engineer in Society - Exam 2	4	10.00	n/a
Project	Engineer in Society - Project 1	1,2,3,4	5.00	n/a
Project	Engineer in Society - Project 2 - Students will undertake a practical design challenge in a developing country through engagement with Engineers Without Borders Ireland (EWB Ireland). They will be tasked with developing viable design concepts to solve societal challenges in the focus region. This will require creative thinking, drawing together a wide spectrum of sustainable engineering principles in order to produce practical and well-balanced design proposals. Typical themes are: Climate Resilient Infrastructure • Self Supply Water and Sanitation • On and Off (Micro) Grid Energy Systems • Food Security. Student self assessment required.	1,4	25.00	n/a
Written Report	Placement: Research and source a work placement with a suitable organization. Prepare a 500 word report outlining the work they will be performing and demonstrate how this will improve their professional knowledge and competencies.	5,6	2.50	n/a
Written Report	Placement: Each student to maintain a log book of the placement experience on Blackboard on a weekly basis. This must be downloaded and printed on a weekly basis (to prevent data loss on Blackboard). Submit the complete log in hard copy on or before 31-August. The log book should include: ● A diary of the work performed on a weekly basis ● A reflection on their role & what they have learned from the week ● Identification of gaps in the student's knowledge / skills relating to the work ● Identification of resources to address the knowledge / skill gap ● An account of the student's attempt to overcome the knowledge / skill deficit. This will be given a Pass or Fail mark i.e. 5 or 0	4,6	5.00	n/a
Performance Evaluation	Placement: A report compiled by the IT Carlow placement supervisor and the industrial mentor confirming the student's attendance, commitment and initiative whilst outlining the student's performance for the duration of the work placement. This will be given a Pass or Fail mark i.e. 10 or 0.	6	10.00	n/a
Written Report	Placement: Submit a 1,500 word Critical Review report describing student involvement in a project or projects during the placement, which critically appraises the project/s together with an outline of the lessons learned, whilst demonstrating the competencies achieved in observing, assessing, evaluating and reporting on processes observed during the placement. Marks for the Performance Evaluation & Log Book reports may be reviewed where an overwhelming case is presented in the Critical Review. The Critical Review will be marked on: Written and graphic communication, professional organization and presentation, review, reflective thought and problem solving, learning from experience gained.	4,6	25.00	n/a
Presentation	Placement: The student is required to make an oral presentation about their experience of the work placement. The content of the presentation will reflect the content of the written report.	4,6	5.00	n/a
Written Report	Placement: Students must research and submit a proposal for their final year dissertation in the format outlined in the current dissertation brief.	5	2.50	n/a

No Project

No Practical

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	12 Weeks per Stage	4.00
Tutorial	12 Weeks per Stage	0.08
Placement	12 Weeks per Stage	12.50
Assignment	12 Weeks per Stage	1.00
Estimated Learner Hours	12 Weeks per Stage	7.50
	Total Hours	301.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMHCE_B	Bachelor of Engineering (Honours) in Civil Engineering	7	Mandatory