SURV: Highway Engineering and Surveying

Module Title:	Highway Engineering and Surveying
Language of Instruction:	English

Credits:	5

NFQ Level:	7

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	Lectures Practicals Private study Blackboard

Module Aim:	The aims of the module are: (1) to produce graduates capable of working with minimal supervision in a modern road construction environment; (2) to provide graduates to the workplace capable of participating in the pavement design process, using the most up to date methods and procedures; (3) to provide graduates with sufficient knowledge and skills to continue to degree level in the highways and civil engineering areas

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Explain basic highway elements including link roads, roundabouts and junctions to meet current Irish standards.
LO2	Design drainage systems and drainage elements used in road projects.
LO3	Calculate information necessary to set out vertical and horizontal curves using traditional setting out and coordinate methods.
LO4	Carry out detail surveys and manipulate survey data in software packages

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.*
No requirements listed

Module Content & Assessment

Indicative Content
Road Alignment (a) Horizontal and vertical allignment- design methods (b) Introduction to Roundabout design
Road Drainage (a) Types of drainage systems (b) Design of surface systems (c) Disposal of drained water
Road Curves (a) Setting out of vertical curves (b) Setting out horizontal curves
Surveying (a) Global Positioning Systems, (b) Geographic Information Systems
Materials In Pavement Design (a) Pavement Design & Construction (Foundations, Pavement Construction Methods) (b) Surfacing & Surfacing Materials (Bituminous Surfacing Materials & Techniques)

Assessment Breakdown	%
Practical	50.00%
End of Module Formal Examination	50.00%

No Continuous Assessment

No Project

Practical				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	n/a	1,2,3,4	50.00	n/a

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	n/a	1,2,3,4	50.00	End-of-Semester

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
Practicals	12 Weeks per Stage	2.00
Estimated Learner Hours	12 Weeks per Stage	6.50
	Total Hours	150.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMCIV_D	Bachelor of Engineering in Civil Engineering	5	Mandatory