

TRAF C3502: Highway and Traffic Eng I

Module Title:			Highway and Traffic Eng I				
Language of Instruction:		n:	English				
Credits:		5					
NFQ Level:		8					
Module Deli	vered In		1 programme(s)				
Teaching & Strategies:	Learning		Lectures; Practice/Field Work; Project Work; Private Study				
Module Aim:			The aims of this module are: to provide the students with a knowledge of traffic flow analysis and resulting applications including the preparation of traffic analysis reports; to provide the students a knowledge of geometric design of highways; to provide students with a comprehensive knowledge of the use of bituminous materials in pavement design including the design of flexible pavements.				
Learning Ou	itcomes						
On successfu	ul completio	n of th	nis module the learner should be able to:				
LO1	Evaluate a	ind an	alyse traffic flow and relate this to road/junction capacity.				
LO2 Evaluate junction			capacity for Priority junctions, Roundabouts and Signalised Junctions.				
LO3	Evaluate p	arking	requirements and determine appropriate parking options for developments.				
LO4	Communic	ate w	ith other engineers and society at large via written communication techniques.				
Pre-requisit	Pre-requisite learning						
Module Rec This is prior l	Module Recommendations This is prior learning (or a practical skill) that is recommended before enrolment in this module.						
No recomme	ndations list	ted					
Incompatible Modules These are modules which have learning outcomes that are too similar to the learning outcomes of this module.							
No incompati	No incompatible modules listed						
Co-requisite	Co-requisite Modules						
No Co-requis	No Co-requisite modules listed						
Requiremen This is prior l	ts earning (or a	a prac	ctical skill) that is mandatory before enrolment in this module is allowed.				
Bachelor of E	Bachelor of Engineering (Ordinary) in Civil Engineering						



TRAF C3502: Highway and Traffic Eng I

Module Content & Assessment

Indicative Content

Traffic Engineering Studies

(a) Travel Time and Delay Studies (b) Parking studies (c) Accident studies (d) Expansion of traffic counts into AADT flow (e) Scoping design and reporting on a Traffic Engineering Study

Basic Elements of Highway Traffic Analysis (a) Flow-density relationships (b) Speed density relationships (c) Speed flow relationships (d) Highway capacity and level of service (e) Design methods used to establish maximum service flow rates for 2- lane and multi- lane highways (f) Derivation of design reference flows (g) Geometric layout for major / minor intersections (h) Equations used for determining capacities and delays at intersections (i) Traffic capacity at roundabouts

Geometric Design for Highways (a) Geometric details of Roundabouts (b) Geometric parameters on design speed

Assessment Breakdown	%
Continuous Assessment	10.00%
Project	10.00%
Practical	20.00%
End of Module Formal Examination	60.00%

Continuous Assessment						
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date		
Project	n/a	1,2,3,4	10.00	n/a		

Project						
Assessment Type		Assessment Description	Outcome addressed	% of total	Assessment Date	
	Project	n/a	1,2,3,4	10.00	Sem 2 End	

Practical						
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date		
Practical/Skills Evaluation	n/a	1,2,3,4	20.00	n/a		

End of Module Formal Examination						
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date		
Formal Exam	Exam	1,2,3	60.00	End-of-Semester		

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



TRAF C3502: Highway and Traffic Eng I

Module Workload

Workload: Full Time				
Workload Type	Frequency	Average Weekly Learner Workload		
Lecture	Every Week	3.00		
Estimated Learner Hours	Every Week	3.00		
	Total Hours	6.00		

Module Delivered In					
Programme Code	Programme	Semester	Delivery		
CW_CMHCE_B	Bachelor of Engineering (Honours) in Civil Engineering	6	Mandatory		