

Statistics

Module Code	CIVE50008	FHEQ Level	Level 5
Pre-requisites	N/A	Co-requisites	N/A
Teaching Term	Spring	Available for CPD (MSc only)	No
Primary Department	Civil & Environmental Engineering		
Module Leader	Karpadakis, Ioannis		
Additional Teaching Departments	N/A		
Teaching Staff	Christou, Marios		
Programmes on which the Module is delivered			Core/Elective
MEng Civil Engineering (H201)			Core
MEng Civil Engineering with a Year Abroad (H202)			Core
Civil Engineering (H21E)			Core
Module Overview	<p>Through this module you will be able to explain the issues of uncertainty in civil and environmental engineering and how statistical tools provide ways of estimating this uncertainty under given assumptions for different types of data.</p>		
Learning Outcomes	<p>Upon successful completion of this module you will be able to:</p> <ul style="list-style-type: none"> • Represent and quantify uncertainty • Apply the main standard distributions used in civil and environmental engineering. • Explain what the output of a statistical test means. • Estimate confidence intervals for sampling errors. • Explain the reliability and possible uses of a linear regression model. 		
Description of Content	<p>You will learn:</p> <ul style="list-style-type: none"> • To summarise and represent the information contained in samples of data. • The basics of how to handle the main statistical tool for representing uncertainty, i.e. random variables. • To identify which distributions are useful for which types of civil and environmental engineering uncertainty. • To fit these distributions to different types of engineering data. • To represent results in the form of confidence intervals. • To interpret the output of a statistical test. • What is involved in setting up a statistical model (through the case of linear regression). 		

Assessment			
Assessment information will be provided separately.			
Learning & Teaching Hours	Independent Study Hours	Placement Hours	Total Hours
40	85	0	125
ECTS Credit	5	CATS Credit	10
Date of introduction	1/10/2020	Date of Last Revision	2/9/2020

Reading Lists:

Category as defined by Central Library:

C = Core, S = Supplementary

	Kottegoda, N.T. and Rosso, R. (2008) Applied Statistics for Civil and Environmental Engineers, Wiley
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