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School of Engineering & Computer Sciences

Module Specifications

Year/Level: 5
Programme: Civil Engineering

Module:	Mechanics of Materials and Stabilit	**Module Code:**	5FTC2193	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the theory and application of the principles of mechanics of materials and stability of structures applied to civil engineering. Additionally, the module aims to enable students to appreciate how principles of mechanics of materials and stability inform structural design considerations.

Module:	Civil Engineering Materials 2	**Module Code:**	5FTC2194	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to make judgements on the selection of appropriate materials for civil engineering applications based on their properties and performance. Additionally, the module aims to enable students to appreciate the different mechanisms of degradation and deformation and how these are reflected on standards. It also aims to enable students to explore how the performance of construction materials can be monitored and assessed. Finally, it aims to enable students to review the concept of 'design life' in terms of the deterioration of construction materials.

Module:	Hydrology and Open Channel Hyd	**Module Code:**	5FTC2195	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the hydrological cycle, the role of rainfall and runoff in an urban drainage situation as well as flood estimation in the context of discharge in open channels and flooding. In addition, this module aims to enable students to appraise the principles of open-channel flow and apply techniques for solving typical techniques for solving open-channel flow problems.

Module:	Digital Tools for Civil Engineering	**Module Code:**	5FTC2196	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the application of a range of appropriate CAD software commonly used in civil engineering. The module also aims to enable students to develop a foundation of lifelong learning in digital tools.
It also aims to enable students to appreciate how to properly communicate solutions of problems in civil engineering to a range of audiences. Finally, it aims to enable students to evaluate Building Information Modelling (BIM) as a process and enable collaborative working in construction projects and the development of life

Module:	Soil Mechanics & Concept Founda	**Module Code:**	5FTC2197	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore how to take factual site investigation and desktop study information with testing results to provide interpretive information for use in geotechnical design. Additionally, the module aims to enable students to appreciate the importance of test data to determine strength parameters of soil as well as to propose foundation solution options considering the soil type, mechanics properties and construction methodology.
It also aims to enable students to explore how to use test data to undertake slope stability analysis and determine seepage.

Module:	Construction Management	**Module Code:**	5FTC2198	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to appreciate how civil engineering projects are developed and then delivered and what techniques, systems and approaches there are available to administer the contract effectively as well as manage the works. Additionally, this module aims to enable students to build on risk assessments from previous learning to planning work and producing the health, safety and quality documents to enable safe undertaking of tasks. There will be a focus on task management, monitoring progress and understanding the cost base principles.

Module:	Surveying and Highway Engineerin	Module Code:	5FTC2199	Credits:	15

Module Description: **Mandatory**

This module aims to enable students to develop the theoretical and practical skills necessary to carry out the common survey processes for large civil engineering projects. Additionally, this module aims to explore and apply the common methods of providing control systems for large civil engineering projects using both traditional and GNSS methods, including methods of statistical adjustment using software to analyse the results, detect outliers and compare methodologies. This module also aims to enable students to appreciate the use of existing and emerging modern instruments available for a range of surveying applications.

Module:	Civil Engineering Structural Design	Module Code:	5FTC2200	Credits:	15

Module Description: **Mandatory**

This module aims to enable students to appreciate the structural behaviour of members and appraise structural design methods. Additionally, this module aims to enable students to explore the use of structural design codes of practice.