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School of Engineering & Computer Sciences

Module Specifications

Year/Level: 4
Programme: Civil Engineering

Module:	Civil Engineering Materials 1	**Module Code:**	4FTC2153	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the scientific principles, general properties, and appropriate uses of engineering materials for given engineering environments. Additionally, it aims to enable students to appreciate the origin and key properties of the main materials used in construction. Finally, the module aims to enable students to review how materials' properties define their behaviour under loading conditions as well as their failure and appreciate how this information feeds into civil engineering design.

Module:	Engineering Mathematics	**Module Code:**	4FTC2154	**Credits:**	15

Module Description: **Mandatory**

The aims of this module are to enable students to further their knowledge and understanding of the fundamental mathematical techniques required for engineering applications and develop the mathematical concepts required to support other modules in the engineering programmes.

Module:	Principles of Sustainable Design &	**Module Code:**	4FTC2155	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the basic concepts of the construction process and relevant terminology. Additionally, it aims to enable students to recognise the importance of health and safety in the workplace, in developing designs and on construction sites.
This module also aims to enable students to appreciate civil engineering for infrastructure development in the context of socio-economic and demographic change, the commercial factors influencing major projects, the project management process, and relevant government initiatives. Finally, this module aims to enable

Module:	Site Surveying and Setting Out	**Module Code:**	4FTC2156	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the role and importance of the survey operations that occur at each stage of a civil engineering project. Additionally, it aims to enable students to appreciate the theoretical and practical skills necessary to carry out the common survey processes required for civil engineering projects. It also aims to enable students to review the importance of quality assurance in surveying and its application to civil engineering projects, and to work effectively as a member of a team of surveyors and appreciate the different team roles within surveying.

Module:	Fluid Mechanics and Hydraulics	**Module Code:**	4FTC2157	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to apply the fundamental principles of fluid mechanics to the solution of common engineering problems involving pipe flows and forces on submerged surfaces. Additionally, this module aims to enable students to appreciate the context within which water distribution and asset management are applied in civil engineering.

Module:	Fundamentals of Structural Analys	**Module Code:**	4FTC2158	**Credits:**	15

Module Description: **Mandatory**

This module aims to enable students to explore the principles of mechanics and application of structural analysis in determining the behaviour of simple structures. Additionally, the module aims to enable students to appreciate how fundamental principles of structural analysis will inform more advanced structural design solutions.

Module:	Engineering Application of Mathem	Module Code:	4FTC2159	Credits:	15

Module Description: **Mandatory**

The aims of this module are to enable students to apply their knowledge and understanding of the fundamental mathematical techniques required for engineering applications and develop the mathematical concepts required to support other modules in the engineering programmes.

Module:	Civil Engineering Practical	Module Code:	4FTC2160	Credits:	15

Module Description: **Mandatory**

This module aims to enable students to explore the specification of a site investigation, undertake desktop studies and determine the soil strata as well as identify and consider key geological risks. It also aims to enable students to explore the different soil types and methods for testing to determine soil parameters with an introduction to properties of soil. Additionally, the module aims to enable students to appreciate the knowledge about geotechnical structures and foundations, their method of construction and considerations regarding soil conditions.