School of Engineering & Computer Sciences

Module Specifications

Year/Level: 5
Programme: EEE

Module:	Signals and Systems	Module Code:	5FTC2204	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to develop a knowledge of mathematics and engineering principles to obtain the solution of problems in signals and systems analysis, as well develop practical laboratory skills to support topics in signals and systems analysis.

Module:	Digital Design & Embedded Systems	Module Code:	5FTC2205	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to gain sufficient understanding of digital designs and embedded systems and their implementation using microcontrollers, microprocessors, and programmable logic devices. This will provide students with opportunities to design, build and program systems based on their use.

Module:	lectric Power and Energy Conversio	Module Code:	5FTC2206	Credits:	15

Module Description: **Mandatory/Optional**

This module aims to enable students to gain an insight into the principles of electric power generation and transmission, energy conversion systems and the control of electrical motor drives using power electronics converters.

Module:	Analogue and Mixed-Signal Design	Module Code:	5FTC2207	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to develop comprehensive knowledge and understanding of structured design principles and methodologies necessary to build prototype electronic systems in the field of Analogue and Mixed Mode. Students will also learn to work with information that may be incomplete or uncertain, quantifying the effect of this on the design and, where appropriate, using theory or experimental research to mitigate any deficiencies. Additionally, the module will focus on working with project documentation and resource planning, as well as engaging with stakeholders. Finally, students will have the opportunity to build and

Module:	eal-Time Systems and Programmin	Module Code:	5FTC2208	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to extend their knowledge of embedded systems to include programming principles and to gain an insight into the fundamental concepts of real-time systems and software design.

Module:	Connected Systems and IoT	Module Code:	5FTC2209	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to develop problem-solving, communication, information retrieval, IT resource, and group-working skills to design and implement solutions to engineering problems involving programmable systems in the field of the Internet of Things (IoT). Students will become competent in the stages of designing and implementing complex programmable logic systems. Additionally, they will learn to work with information that may be incomplete or uncertain, quantifying the effect of this on the design and, where appropriate, using theory and/or experimental research to mitigate deficiencies when designing and

Module:	Mechatronics	Module Code:	5FTC2210	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to understand on a basic level the multidisciplinary aspects of mechatronics by covering all the main interfaces such as mechanics/dynamics, electrical and electronics as well as control systems.

Module:	Communication System Principles	Module Code:	5FTC2211	Credits:	15

Module Description: **Mandatory/Optional**

The aims of this module are to enable students to gain an understanding of communication system principles including communication networks. To facilitate this, an understanding of various building blocks for communication systems such as antennas, amplifiers, mixers, filters, frequency control and synthesis will be covered.