

Module Specifications

Year/Level: 6
Programme: EEE

Module:	Microelectronics and VLSI	Module Code:	6FTC2215	Credits:	15
Module Description:				Mandatory/Optional	

The aims of this module are to enable students to consolidate their knowledge of analogue and digital circuits, extending it into specialised integrated circuit design concepts, including high speed analogue and digital circuit techniques and 'System on Chip'.

Module:	Intelligent Systems and Robotics	Module Code:	6FC2216	Credits:	15
Module Description:				Mandatory/Optional	

The aims of this module are to enable students to gain an understanding of artificial intelligence techniques as well as systems such as fuzzy logic, fuzzy inference systems, neural networks and neuro-fuzzy inference. Students will also be able to apply this gained knowledge in the context of robotics.

Module:	Digital Communication Systems	Module Code:	6FTC2217	Credits:	15
Module Description:				Mandatory/Optional	

The aim of this module is to enable students to further develop their knowledge of communication system principles, with particular reference to digital aspects of communications. The digital communications module will have a deeper look at the main concepts of communication systems, with particular reference to digital aspects of communications. Students will use standard mathematical methods to design, model and analyse digital communication systems and predict performance metrics such as received SNR and expected bit error ratio.

Module:	Digital Signal Processing	Module Code:	6FTC2218	Credits:	15
Module Description:				Mandatory/Optional	

The aims of this module are to enable students to gain an insight into the principles of signal processing techniques and design methods and to enable them to implement DSP algorithms using digital signal processors.

Module:	Power Systems & Renewable Energy	Module Code:	6FTC2219	Credits:	15
Module Description:				Mandatory/Optional	

The aims of this module are to enable students to gain an in-depth knowledge on the key concepts of electric power systems operation, analysis, and control. To enable this, students will understand the fundamental principles of renewable energy systems and related technologies. Additionally, this module aims to enable students to develop an understanding of the technology, components, and control architecture of the future smart grids.

Module:	Wireless Networking	Module Code:	6FTC2220	Credits:	15
Module Description:				Mandatory/Optional	

The aims of this module are to enable students to gain an understanding of fundamentals, concepts, architecture and principles of local/wide area networks, sensor networks, mobile networks and internet of things (IoT). Additionally, this module aims to enable students to explore applicable network communication methodologies and protocols to apply this and become aware of emerging trends of wireless networks.

Module:	BEng Individual Project (Electrical)	Module Code:	6FTC2221	Credits:	30
Module Description:				Mandatory/Optional	

The module aims to provide the framework for a student to gain the experience of managing a major piece of project work in a professional manner in a specialist subject area in engineering. Students will deliver a solution to a potential customer/supervisor as realistically as possible in an academic context whilst also considering the impact of their solution to the wider society.