FACULTY OF ENGINEERING AND COMPUTING

Programme Regulations 2022-2023

Programme Title:	**Bachelor of Engineering in Electronic and Computer Engineering/Master of Engineering in Electronic and Computer Engineering**
Programme Code	**ECEi4/ECEiM5**
Offered on a full-time or part-time basis	**Full Time**

Note: ***Programme Regulations should be read in conjunction with Marks and Standards which can be found at*** **https://www.dcu.ie/ovpaa/Policies-and-Regulations.shtml**

1. Programme Specific Rules and Requirements

1.1 Calculation for the Award Classification

The calculation of the final year award classification includes contributions from previous years' results as follows:

Year contribution	**Contribution to the award classification**
Year 1	0%
Year 2	0%
Year 3	10%
Year 4	20%
Year 5	70%
BEng exit in year 4	Yr 1=0%, Yr 2=0%, Yr 3=15%, Yr 4=85% (including project)

For the dual MEng/BEng award, the classification obtained over 5 years is applied to both the BEng and MEng.

Students may obtain an MEng in Electronic and Computer Engineering in one of the following 4 majors;

- Major in Advanced Data Networks (ADNi),
- Major in Internet of Things (IoTi),
- Major in Digital Interaction (DIi) or
- Major in Nanotechnology and Photonics (NPi).

Students have to complete minimum required credits in Year 4 and Year 5 from the list of offered modules.

In Year 4, students have to complete 60 credits in the ECEi4 year of the integrated programme from their selected Major stream. There are no elective modules within the Major streams; the only choices are between the Major streams.

Students in the ECEi4 with a major in **Advanced Data Networks (ADNi)** must complete the following modules:

Module Code	Module Title	ECTS
EE402	Object Oriented Programming with Embedded Systems	7.5
EE452	Wireless/Mobile Communications	7.5
EE458	Control Systems Analysis	5
EE496	Computer Architecture and HDL	5
EE5002A	RD&I Training & Project Planning	7.5
EE401	DSP-Digital Filters & DFT	5
EE417	Web Application Development	7.5
EE454	Optical Communication Systems Design	7.5
EE470	Introduction to Engineering Management	7.5

Students in the ECEi4 with a major in **Internet of Things (IoTi)** must complete the following modules:

Module Code	Module Title	ECTS
EE402	Object Oriented Programming with Embedded Systems	7.5
EE452	Wireless/Mobile Communications	7.5
EE458	Control Systems Analysis	5
EE496	Computer Architecture and HDL	5
EE5002A	RD&I Training & Project Planning	7.5
EE401	DSP-Digital Filters & DFT	5
EE417	Web Application Development	7.5
EE445	Bioelectronics	7.5
EE470	Introduction to Engineering Management	7.5

Students in the ECEi4 with a major in **Digital Interaction (DIi)** must complete the following modules:

Module Code	Module Title	ECTS
EE402	Object Oriented Programming with Embedded Systems	7.5
EE452	Wireless/Mobile Communications	7.5
EE458	Control Systems Analysis	5
EE496	Computer Architecture and HDL	5
EE5002A	RD&I Training & Project Planning	7.5
EE401	DSP-Digital Filters & DFT	5
EE417	Web Application Development	7.5
EE497	3D Interface Technologies	7.5
EE470	Introduction to Engineering Management	7.5

Students in the ECEi4 with a major in **Nanotechnology and Photonics (NPi)** must complete the following modules:

Module Code	Module Title	ECTS
EE402	Object Oriented Programming with Embedded Systems	7.5
EE419	Power Electronics	5
EE458	Control Systems Analysis	5
EE463	Solid State Electronics & Semiconductor Devices	7.5
EE5002A	RD&I Training & Project Planning	7.5
EE401	DSP-Digital Filters & DFT	5
EE454	Optical Communication Systems Design	7.5
EE459	Mechatronic System Simulation & Control	7.5
EE470	Introduction to Engineering Management	7.5

In Year 5, students have to complete 60 credits in the ECEiM5 year of the integrated programme from their selected Major stream.

Students in the ECEiM5 with a major in **Advanced Data Networks (ADNi)** must complete the following modules:

Module Code	Module Title	ECTS
EE500	Network Performance	7.5
EE509	Data Network Protocol Analysis and Simulation	7.5
EE5001	Security for IoT Networks	7.5
EE507	Entrepreneurship for Engineers	7.5
EE5005	Advanced Data Networks Masters Project	15
	and one of:	
EE506	Photonics Devices	7.5
EE515	Real-Time Digital Signal Processing (DSP)	7.5
EE521	Future Network Architectures	7.5
	and one of:	
EE517	Networks Analysis and Dimensioning	7.5
EE519	Wireless Communications in Fading Channels	7.5
EE562	Network Stack Implementation	7.5

Students in the ECEiM5 with a major in **Internet of Things (IoTi)** must complete the following modules:

Module Code	Module Title	ECTS
EE500	Network Performance	7.5
EE514	Data Analysis and Machine Learning	7.5
EE516	Blockchain Scalability	7.5
EE507	Entrepreneurship for Engineers	7.5
EE513	Connected Embedded Systems	7.5
EE5004	Internet of Things Masters Project	15
	and one of:	
EE5001	Security for IoT Networks	7.5
EE562	Network Stack Implementation	7.5

Students in the ECEiM5 with a major in **Digital Interactions (DIi)** must complete the following modules:

Module Code	Module Title	ECTS
EE453	Image Processing & Analysis (Plus)	7.5
EE500	Network Performance	7.5
EE514	Data Analysis and Machine Learning	7.5
EE507	Entrepreneurship for Engineers	7.5
EE513	Connected Embedded Systems	7.5
EE544	Computer Vision	7.5
EE5006	Digital Interactions Masters Project	15

Students in the ECEiM5 with a major in **Nanotechnology and Photonics (NPi)** must complete the following modules:

Module Code	Module Title	ECTS
EE506	Photonics Devices	7.5
EE559	Nanoelectronics Technology	7.5
EE507	Entrepreneurship for Engineers	7.5
EE508	Fundamentals of Device Manufacturing	7.5
EE518	Photonics Applications and Technologies	7.5
EE5007	Nanotechnology and Photonics Masters Project	15
	and one of:	
EE514	Data Analysis and Machine Learning	7.5
EE515	Real-Time Digital Signal Processing (DSP)	7.5
EE535	Energy System Decarbonisation	7.5

1.2 Module Calculation (specific modules)

There are modules on this programme where the module mark will be calculated as the greater of (a) the weighted average of the continuous assessment percentage mark and the terminal examination percentage mark or (b) the terminal examination mark. The modules are as follows:

Module Code	Module Title
PS202	Electromagnetism
EE323	Electromagnetism II

2. Derogations from Marks and Standards

Name of Professional Body: Engineers Ireland.
Derogation from Marks and Standards Paragraph 1.1 Awards.

Students exiting the programme in Year 4 with a BEng are required to complete a final year project comprising 15 credits over the summer. This brings the overall credits obtained to 255.

3. Progression

3.1 Credits for progression

Students must have successfully completed a minimum of 60 credits in a study period in order to progress to the next study period, excepting circumstances as outlined in point 3.2.

To transfer in Year 4 of the programme to the MEng pathway students must achieve a minimum H2.2 average (50%) precision mark from the aggregate of marks from Year1, Year 2 and Year 3. A student's track record, performance, rate of progression and commitment to the pathway may be considered in assessing applications for the integrated master's programme. The school will reserve the right to reject applications based on availability of places. Otherwise students complete the 4th year of the BEng programme DC190.

3.2 Carrying of modules

Students will not be permitted to "carry" modules except in exceptional circumstances and subject to the approval of the Progression and Award Board and mode of delivery permitting.

3.3 Exit Awards

In the exceptional case where a student is not in a position to take Year 5 of the programme, provision will be made to complete a BEng project over the summer at the end of Year 4 so that a BEng is obtained. The project mark is included in the Year 4 precision mark.

4. Compensation

Compensation may apply in years 1 - 4 only, within the regulations specified in Marks and Standards.

5. Resit Categories

All modules except those specified below fall into category 1.

Resit category 1: A resit is available for all components of the module.

Resit category 2: No resit is available where the module is 100% assessed by continuous assessment.

Below is the list of category 2 modules for ECEi4 and ECEiM5

Module Code	*Module Title*
EE5002A	RD&I Training & Project Planning
EE5004	Internet of Things Masters Project
EE5005	Advanced Data Networks Masters Project
EE5006	Digital Interactions Masters Project
EE5007	Nanotechnology and Photonics Masters Project

Resit category 3: No resit is available for the continuous assessment component and the examination must be re-taken.

Below is the list of category 3 modules for ECEi4 and ECEiM5;

Module Code	*Module Title*
EE506	Photonics Devices
EE454	Optical Communications System Design