

# POSTGRADUATE DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING

## Overview

NFQ Level 9, Major Award

## Exit Award only

A candidate on the MEngSc (Electrical and Electronic Engineering) (<https://ucc-ie-public.courseleaf.com/programmes/menee/>) programme, who passes **Part I** but does not achieve an average mark of at least 50% across the taught modules, excluding the Research Project (**EE6019**), or does not achieve a mark of at least 50% in the Research Project (**EE6019**), will be eligible for the award of a Postgraduate Diploma in Electrical and Electronic Engineering.

A candidate on the MEngSc (Electrical and Electronic Engineering) (<https://ucc-ie-public.courseleaf.com/programmes/menee/>) programme, who passes **Part I** and does not wish to proceed to **Part II**, may opt to be conferred with a Postgraduate Diploma in Electrical and Electronic Engineering.

## Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

## Programme Requirements

Code	Title	Credits
Students take <b>60</b> credits - Research Report ( <b>10</b> credits) and elective modules to the value of <b>50</b> credits:		
<i>Core Modules</i>		
EE6019	Research Report	10
<i>Elective Modules</i>		<b>50</b>
Students take <b>50</b> credits from the following:		
<i>Group One</i>		
Students take at least <b>35</b> credits from the following:		
EE6024	Engineering Machine Learning Solutions	
EE6034	Optical Communications and Optoelectronics	
EE6035	Electrical Power Systems	
EE6036	Design of RF Integrated Circuits	
EE6041	Advanced Digital Signal Processing	
EE6042	Frequency Synthesizers for Wireless and Cellular Systems	
EE6043	Design of Digital Integrated Circuits	
EE6044	Advanced Analogue IC Design	
EE6045	Data Converter Techniques: Circuits and Architectures	
EE6046	Introduction to Micro Electromechanical Systems (MEMS)	
EE6048	Smart Grids	
EE6049	Design of Analogue Integrated Circuits	
EE6061	Industrial Automation and Control	
<i>Group Two</i>		
Students take the remaining credits from Group Two:		

### Core Modules

EE6019 Research Report 10

*Elective Modules* 50

Students take **50** credits from the following:

### Group One

Students take at least **35** credits from the following:

EE6024 Engineering Machine Learning Solutions

EE6034 Optical Communications and Optoelectronics

EE6035 Electrical Power Systems

EE6036 Design of RF Integrated Circuits

EE6041 Advanced Digital Signal Processing

EE6042 Frequency Synthesizers for Wireless and Cellular Systems

EE6043 Design of Digital Integrated Circuits

EE6044 Advanced Analogue IC Design

EE6045 Data Converter Techniques: Circuits and Architectures

EE6046 Introduction to Micro Electromechanical Systems (MEMS)

EE6048 Smart Grids

EE6049 Design of Analogue Integrated Circuits

EE6061 Industrial Automation and Control

### Group Two

Students take the remaining credits from Group Two:

CS6322	Optimisation
CS6325	Network Security
CS6327	Internet of Things: Technology and Application
CS6506	Programming in Python
CS6507	Programming in Python with Data Science Applications
EE4001	Energy Systems, Power Electronics and Drives
EE4002	Control Engineering II
EE4004	Telecommunications II
EE4012	Biomedical Systems
EE4019	Photonic Signals and Systems Application
ME6008	Robotics
ME6012	Advanced Robotics
NE4008	Photovoltaic Systems
ST6030	Foundations of Statistical Data Analytics

**Total Credits** 60

## Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.

## Programme Learning Outcomes

### Programme Learning Outcomes for Postgraduate Diploma in Electrical and Electronic Engineering, NFQ Level 9, Major Award

On successful completion of this programme, students should be able to:

- Apply principles from mathematics, science and engineering to solve problems in electrical and electronic engineering and in the related disciplines of microelectronic and mechanical engineering at an advanced level;
- Apply information technology to visualise and analyse problems in electrical and electronic engineering and in the related disciplines of microelectronic and mechanical engineering;
- Identify, formulate, analyse and solve engineering problems;
- Design components and systems to a high standard, demonstrating logical thinking to provide an appropriate solution;
- Critically evaluate the engineering, economic, environmental and societal impacts of proposed design solutions including the use of the technical literature;
- Work as an individual and in teams in an engineering environment;
- Communicate engineering-related information effectively;
- Maintain high ethical standards in their practice of engineering.