

ME (ENERGY) ENGINEERING

Programme Requirements

Code Title Credits

Year 1 - Engineering

Students take **60** credits as follows:

Core Modules

CE1003	Introduction to Structural and Civil Engineering	5
CE1005	Engineering Computation and Problem Solving	5
CM1001	Chemistry for Engineers	5
EE1007	Introduction to Electrical and Electronic Engineering	5
MA1011	Mathematical Methods I	5
MA1012	Mathematical Methods II	5
ME1002	Engineering Thermodynamics	5
NE1001	Introduction to Energy Engineering	5
PE1003	Introduction to Process and Chemical Engineering	5
PY1006	Physics for Engineers II	5
PY1012	Physics for Engineers I	10

Year 2 - Energy Engineering

Students take **60** credits as follows:

Core Modules

EG2002	Numerical Methods and Programming	5
CE2001	Solid and Structural Mechanics I	5
CE2003	Fluids I	5
CE2004	Fluids II	5
EE2012	Linear Circuit Analysis	5
EE2013	Non-Linear Circuit Analysis	5
EE2014	Signals and Systems 1	5
EE2015	Signals and Systems 2	5
EE2016	Electrical Power Engineering I	5
EE2017	Electrical Power Engineering II	5
NE2001	Primary Energy Engineering	5
ST1051	Introduction to Probability and Statistics	5

Year 3 - Energy Engineering

Students take **60** credits as follows:

Core Modules

CE3006	Construction Project Management	5
CE3007	Hydraulics I	5
CE3009	Environmental Engineering	5
EE3011	Power Electronics & AC Machines and Systems	5
EE3012	Electric Vehicle Energy Systems	5
EE3016	Control Engineering I	5
ME3003	Mechanical Systems	5
ME3004	Applied Thermodynamics and Work Transfer	5
NE3002	Energy in Buildings	5
NE3003	Sustainable Energy	5
NE3004	Transportation and Energy	5
NE3005	Energy Systems Modelling	5

Year 4 - ME Pathway Energy Engineering

Students take **60** credits as follows – all listed core modules (**30** credits) in Part A and a Placement module (**30** credits) in Part B:

Part A

Core Modules

EE4001	Energy Systems, Power Electronics and Drives	5
EE4002	Control Engineering II	5
EE4010	Electrical Power Systems	5
EE4014	Industrial Automation and Control	5
NE4002	Wind Energy	5
NE4008	Photovoltaic Systems	5

Part B

Core Modules

NE6060	ME Energy Placement	30
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Year 5

Students take **60** credits as follows - all listed core modules (**45** credits) and elective modules to the value of **15** credits:

Core Modules

NE4007	Computer Aided Design VII (Heating, Ventilation and Air Conditioning)	5
NE6005	Ocean Energy	5
NE6014	Energy Innovation	5
NE6015	Data Analytics for Engineering	5
NE6016	Energy Systems in Buildings	5
NE6017	ME Energy Engineering Project	20

Elective Modules

Students take modules to the value of **15** credits from the following:

CE4024	Progressing Toward Sustainable Industry (5)	
CE6043	Harbour and Coastal Engineering (5)	
CS6322	Optimisation (5)	
MG4052	Management in Practice (5)	
NE6004	Sustainability, Bioenergy and Circular Economy Systems (5)	
NE6010	Offshore Wind Energy (5)	
NE6212	Clean Energy Futures (5)	
EE6048	Smart Grids (5)	

Total Credits 300

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*.