# BE (HONS) (ELECTRICAL AND ELECTRONIC) ENGINEERING

## Programme Requirements

| Code | Title | Credits |
|---|---|---|
| **Year 1** | | |
| 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 1 | 10 |
| **Year 2** | | |
| Students take **60** credits as follows: | | |
| *Core Modules* | | |
| EG2002 | Numerical Methods and Programming | 5 |
| CE2001 | Solid and Structural Mechanics I | 5 |
| EE2011 | Digital Electronics | 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 |
| EE2020 | Semiconductor Devices | 5 |
| MA2013 | Mathematics for Engineering | 5 |
| ST1051 | Introduction to Probability and Statistics | 5 |
| **Year 3** | | |
| Students take **60** credits as follows: | | |
| *Core Modules* | | |
| EE3011 | Power Electronics & AC Machines and Systems | 5 |
| EE3012 | Electric Vehicle Energy Systems | 5 |
| EE3013 | Electromagnetic Fields for Engineers | 5 |
| EE3014 | Signal Processing | 5 |
| EE3015 | Telecommunications I | 5 |
| EE3016 | Control Engineering I | 5 |
| EE3018 | Analogue Integrated Circuits | 5 |
| EE3019 | Digital Integrated Circuits | 5 |
| EE3020 | Engineering Applications of Machine Learning | 5 |
| EE3022 | Electronic Circuit Design | 5 |
| EE3023 | Electronic Embedded Systems | 5 |
| ME3003 | Mechanical Systems | 5 |
| **Year 4** | | |
| *BE (Hons)* | | |
| Students take **60** credits as follows - all listed core modules (**45** credits) and **15** credits of elective modules: | | |
| EE4002 | Control Engineering II | 5 |
| *Core Modules* | | |
| EE4014 | Industrial Automation and Control | 5 |
| EE4016 | Transmission Lines | 5 |
| EE4019 | Photonic Signals and Systems Application | 5 |
| EE4050 | BE Project | 10 |
| MG4052 | Management in Practice | 5 |
| Select **10** credits from the following Electrical or Electronic options: | | 10 |
| *Electrical* | | |
| EE4001 | Energy Systems, Power Electronics and Drives (5) | |
| EE4010 | Electrical Power Systems (5) | |
| *Electronic* | | |
| EE4022 | Analogue IC Design (5) | |
| EE4023 | Digital IC Design (5) | |
| *Elective Modules* | | |
| Students take modules to the value of **15** credits from the following: | | 15 |
| EE4004 | Telecommunications II (5) | |
| EE4007 | Optical Communication Systems and Devices (5) | |
| EE4011 | Radio Frequency IC Design (5) | |
| EE4012 | Biomedical Systems (5) | |
| EE4025 | Introduction to Micro Electromechanical Systems (MEMS) (5) | |
| EE4060 | BE Work Placement (5) | |
| **Total Credits** | | **240** |

## 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*.