

**1. Programme Title(s) and UCAS code(s):**

The Engineering Department offers degree programmes in six different disciplines: Aerospace Engineering, Communications & Electronic (C+EE) Engineering, Electrical & Electronic Engineering, General Engineering, Mechanical Engineering and Software & Electronic (S+EE) engineering. Each programme has six different variants, either MEng or BEng, with or without a year in industry, and with or without a year abroad. The UCAS codes for the resulting 36 degree programmes are shown in the table below.

Course title	Aerospace	C + EE	Electrical	General	Mechanical	S + EE
MEng (4yrs)	H401	H643	H606	H105	H305	GHQP
MEng with industry (5yrs)	H405	H644	H607	H107	H306	HGQP
MEng with Year Abroad (5yrs)	H402	H691	H603	H104	H307	HG6Q
BEng (3yrs)	H400	H640	H604	H100	H300	GH6Q
BEng with industry (4yrs)	H404	H641	H609	H102	H302	HGQQ
BEng with Year Abroad (4 yrs)	H403	H690	H600	H103	H301	GHQQ
BEng (with Foundation Year)				H199		

**2. Awarding body or institution:**

University of Leicester

**3.**
**a) Mode of study:**

Full-time

**b) Type of study:**

Campus-based

**4. Registration periods:**

MEng

Full-time

The normal period of registration for is 4 years

The maximum period of registration is 6 years

BEng

Full-time

The normal period of registration is 3 years

The maximum period of registration is 5 years

The 'with a Year in Industry' and 'with a Year Abroad' options of each degree would add one year to the normal and maximum periods of registration listed above.

*For Foundation Year Variant:*

The normal period of registration is four years (one year for the Foundation Year, with three years for the BEng)

The maximum period of registration is six years (one year for the Foundation Year, and five years for the BEng)

## 5. Typical entry requirements:

MEng. Typical offer: AAB – ABB normally including Mathematics and a science or equivalent non- A-level qualifications.

BEng. Typical offer: BBB – BBC normally including Mathematics and a science or equivalent non- A-level qualifications.

*For Foundation Year Variant:*

A level: ABB or points equivalent from best three A levels. Typically in subjects outside of the 'usual' A levels expected by the department.

BTEC Diploma: DDM in appropriate subject area.

Access to HE courses in Science and Engineering: 45 L3 credits, including 30 at Distinction and remaining L3 credits at least at Merit.

## 6. Accreditation of Prior Learning:

APL will not be accepted for exemptions from individual modules, however may be considered for direct entry to year 2, on a case by case and subject to the general provisions of the University APL policy.

*For Foundation Year Variant:*

n/a

## 7. Programme aims:

All the degree programmes aim to satisfy the criteria of the accrediting engineering institutions. These are based on the Engineering Council's UKSpec which defines a common specification for all engineering degrees. The individual degrees therefore share common aims and outcomes and differ only at the level of module content. The specific information for the individual degree programmes is therefore given in the outline programme structures in Appendix 1 and the detailed specifications for each module given in Appendix 3.

The BEng programmes aim to:

1. provide a curriculum that is enjoyable and motivating and which creates enthusiasm for engineering through the challenge of responding to interesting engineering problems;
2. provide students with the breadth of understanding in electrical and electronic, software and mechanical engineering obtainable through working in a general engineering department;
3. develop students' knowledge and understanding of the tools and techniques used for modelling, analysis, design and control of complex engineering systems;
4. develop students' detailed knowledge and understanding of engineering applications used in research and industry;
5. cultivate the synergy between teaching and research; and
6. foster students' independent learning and organisational skills.

In addition to aims 1-6 above, the MEng programmes aim to:

- meet the needs of the appropriate professional institutions and satisfy the educational requirements for registration by the Engineering Council at CEng level;
- enable students to develop and demonstrate a range of subject specific and transferable skills necessary for the study of engineering including team-working, leadership, use of ICT,

- management and planning; and
- provide flexibility and variety so that students can explore specific areas of engineering they find particularly interesting and stimulating;

In addition to the MEng/BEng aims above, the “with a Year in Industry” programmes aim to:

- enable first-hand experience of the requirements, opportunities and modes of operation of engineering industry in the UK;
- place students on challenging and relevant industrial placements;
- enable students to use and develop the knowledge and skills gained during the first two or three years of their degree programme, depending on when they take their year in industry;
- develop students’ career management and development skills.

In addition to the MEng/BEng aims above, the “with a Year Abroad” degree programmes aim to:

- provide students with the opportunity to spend one year studying out of the UK.

For Foundation Year variant, see Foundation Year Programme Specification

#### 8. Reference points used to inform the programme specification:

- Industrial Consultative Committee
- Student representatives
- Alumni
- UK-SPEC (UK Standard for Professional Engineering Competence)
- QAA Frameworks for Higher Education Qualifications in England Wales and Northern Ireland
- QAA [Master’s Degree Characteristics](#)
- QAA Benchmarking Statement [Engineering \(2015\)](#)
- PDR report (May 2008)
- [University Learning Strategy](#)
- University Employability Strategy
- NSS Survey (2014)
- First Destination Survey
- External Examiner’s Reports

#### 9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(a) Discipline specific knowledge and competencies</b>		
<b>(i) Mastery of an appropriate body of knowledge</b>		
Demonstrate knowledge of the principles of general engineering.	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning.	Examinations, laboratory reports, seminar presentations, contributions to discussions, problem-based exercises, design tasks, simulation exercises, group projects, independent projects.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(ii) Understanding and application of key concepts and techniques</b>		
Demonstrate knowledge, understanding and application of appropriate mathematical, computational and scientific techniques and methods for modelling and analysing engineering problems.	Lectures, tutorials, surgeries problem solving classes computer practical classes, example sheets.	Examinations, laboratory reports, seminar presentations, contributions to discussions, problem-based exercises, design tasks, simulation exercises, group projects, independent projects.
Demonstrate knowledge and understanding of the design process and design methodologies used in the discipline.	Lectures, tutorials, surgeries problem solving classes, independent research, project supervision.	As above
Demonstrate knowledge and understanding of management and business practices that influence an engineer's work.	Lectures, tutorials, independent research, project supervision, work placement.	As above plus work placement reports.
Demonstrate knowledge and understanding of manufacturing and/or operational practice.	Lectures, tutorials, independent research, project supervision, work placement.	As above plus work placement reports.
Work as an engineer in an industrial setting (with Industry)	Work placement	Work placement report
<b>(iii) Critical analysis of key issues</b>		
Apply scientific principles to model and analyse engineering systems, processes and products.	Lectures, tutorials, surgeries problem solving classes computer practical classes, example sheets.	Examinations, laboratory reports, seminar presentations, contributions to discussions, problem-based exercises, design tasks, simulation exercises, group projects, independent projects.
Analyse systems, processes or components as part of the design process.	As above	
Evaluate commercial risks and technical risks in unfamiliar circumstances.	Problem solving exercises, independent research projects, group projects.	
<b>(iv) Clear and concise presentation of material</b>		
Interpret and report results, presenting data in alternative forms suitable for a range of different audiences in order to create deeper understanding and/or greater impact.	Lectures, seminars, masterclasses.	Written assignments, exhibitions, poster displays, reports, independent research projects.
<b>(v) Critical appraisal of evidence with appropriate insight</b>		
Select and apply appropriate computer-based methods for modelling and analysing engineering problems.	Computer practical classes, lectures, surgeries.	Computer-based exercises, simulation exercises, research projects.
Create and design new processes or products to fulfil a specified requirement through synthesis of ideas from a wide range of sources.	Design tasks, laboratory practicals, simulation exercises, group projects, work placement	Problem solving exercises, simulations, exhibitions, independent research.
Perform practical testing, technical analysis and critical evaluation of design ideas in laboratory or through simulation.	Design tasks, laboratory practicals, simulation exercises, group projects, work placement.	Laboratory examinations, laboratory reports, simulation reports.

<b>Intended Learning Outcomes</b>	<b>Teaching and Learning Methods</b>	<b>How Demonstrated?</b>
<b>(vi) Other discipline specific competencies</b>		
Select and use appropriate test and measurement instrumentation.	Laboratory practicals, group research projects, independent research projects.	Laboratory reports, examinations, projects reports.
Select and conduct appropriate experimental procedures.	Laboratory practicals, design tasks, independent research.	Laboratory reports, examinations, project reports.
Demonstrate knowledge and understanding of manufacturing and/or operational practice.	Lectures, simulation, work placement.	Laboratory reports, written assignments, work placement report.
Apply understanding of codes of practice related to hazards and operational safety to ensure good working practices.	Laboratory practicals, design tasks, independent research.	Laboratory reports, written assignments, work placement report.
<b>(b) Transferable skills</b>		
<b>(i) Oral communication</b>		
Present technical and business information orally, in an appropriate form for a given audience.	Tutorials, group projects, independent research, project supervision.	Oral presentations, portfolio.
<b>(ii) Written communication</b>		
Communicate business and technical information in an appropriate written form for a given audience.	Lectures, group projects, independent research, project supervision.	Written assignments, laboratory reports, essays, independent project reports.
Report on a practical or simulation test of a design solution including analysis and discussion of the results.	As above	As above
<b>(iii) Information technology</b>		
Communicate business and technical information in an appropriate written form for a given audience.	Lectures, group projects, independent research, project supervision.	Written assignments, laboratory reports, essays, independent project reports.
Report on a practical or simulation test of a design solution including analysis and discussion of the results.	As above	As above
<b>(iv) Numeracy</b>		
Manipulate and sort data to generate new data sets.	Problem-solving classes, research projects.	Computer-based exercises, written assignments, poster displays, oral presentations.
Manipulate and present data in alternative formats to create deeper understanding or greater impact.	Problem-solving classes, research projects.	
<b>(v) Team working</b>		
Work collaboratively as part of a team undertaking a range of different team roles.	Tutorials, masterclasses, project supervision, induction programmes.	Learning logs/diaries, learning portfolios, group projects, simulation exercises.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(vi) Problem solving</b>		
Solve problems through the integration of knowledge of mathematics, science, information technology, design, business context and engineering practice.	Project supervision, lectures, tutorials, example sheets, simulation exercises, laboratory based exercises, computer-based exercises, independent research projects, group projects.	Individual research projects, oral presentations, project reports, problem-based examinations, practical demonstrations.
Select and analyse appropriate evidence to solve non-routine problems.	As above	
Use systematic analysis and design methods to solve problems in unfamiliar situations.	As above	
Use creativity and innovation to solve problems.	As above	
Apply standard management techniques to plan and allocate resources to projects.	As above	
<b>(vii) Information handling</b>		
Select and apply scientific evidence based methods in the solution of problems.	Lectures, tutorials, example sheets, simulation exercises, laboratory based exercises, computer-based exercises, independent research projects, group projects.	Individual research projects, oral presentations, project reports, problem-based examinations, practical demonstrations.
Search for information related to design solution, evaluate it and suggest requirements for additional information.	As above	
Work with limited or contradictory information.	As above	
<b>(viii) Skills for lifelong learning</b>		
Demonstrate knowledge and understanding of the professional and ethical responsibilities of an engineer.	Work placement, simulation exercises, independent research.	Work placement report, simulation exercises, reports, independent projects.
Learn independently and understand new concepts in the discipline readily.	Independent research projects, group research projects, work placement.	Work placement report, independent project report, learning logs/diaries, learning portfolios.
Develop and implement personal plan of work to meet a deadline.	Independent research projects, group research projects, work placement.	Work placement report, independent project report, learning logs/diaries, learning portfolios.
Identify the critical activities within a personal plan of work.	Independent research projects, group research projects, work placement.	Work placement report, independent project report, learning logs/diaries, learning portfolios.
Explore career development opportunities.	Masterclasses, learning portfolios, work placement.	Learning portfolios

## 10. Progression points:

For BEng students, progression at the end of each year is dependent on the procedures outlined in the [Senate Regulation 5](#) with the exception that EG1002, EG1003, EG2003, EG2005 and EG2017 have no resit option (so must be passed at least 35% effectively).

For MEng students, in addition to the standard regulations governing undergraduate programmes, for progression from 2nd year to 3rd year a credit weighted average mark of 60% or more is required (with individual consideration of cases down to 55%). Failure to progress will result in a change in programme from MEng to the equivalent BEng programme. For progression from 3rd year to 4th year, a credit weighted average of 60% or more is required (with consideration given to cases down to 55%). Failure to meet this progression requirement will result in consideration under the scheme of assessment for three year degrees and, where appropriate under the scheme, graduation with the equivalent BEng degree.

In cases where a student has failed to meet a standard requirement to progress as stated in the Regulations governing undergraduate programmes he or she will be required to withdraw from the course

### *For Foundation Year Variant:*

Progression from Year 0 to year 1: In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

Students will be required to pass Foundation Year in order to progress to Year 1 with an average module mark of at least 60%. Students are required to have a mark of at least 60% in N0023, NS0031 and NS0032 to progress onto the BEng in General Engineering.

Institutional accreditation currently has some conditions applicable to different programmes as follows:-

- Institute of Mechanical Engineering (IMechE) – accredit 18 UG programmes: BEng and MEng in Aerospace, Mechanical and General Engineering (including all “with Industry” and “with a Year Abroad” variants)
- Institute of Engineering and Technology (IET) – accredit all 36 UG programmes.
- Institute of Measurement and Control (InstMC) – unconditionally accredit all 18 BEng programmes and the three variants of the MEng Communications and Electronics programme. The remaining MEng programmes:
  - MEng Software and Electronic Engineering
  - MEng Electrical & Electronic
  - MEng General Engineering
  - MEng Mechanical Engineering
  - MEng Aerospace

including “with Industry” and “with a Year Abroad” variants, are only accredited, provided a minimum total of 30 credits are obtained in the 3<sup>rd</sup> and final years of the course from a selection of the following list of optional modules:-

EG3321 – Digital Control

EG3322 – Signal Processing 1

EG4214 – Embedded Systems 1

EG4224 – Embedded Systems 2

EG4321 – Nonlinear Control

EG4322 – Signal Processing 2

The accrediting institutions require that the third year project (EG3005) be passed for BEng (Hons) and also the fourth year project (EG4006) for MEng. For CEng accreditation a grade of 2.2 (50%) or above is required (or a Pass for unclassified degrees).

## **11. Scheme of Assessment**

The programme follows the standard scheme of award and classification set out in [Senate Regulation 5](#) with the exception that EG1002, EG1003, EG2003, EG2005 and EG2017 have no resit option (so must be passed at least 35% effectively).



## **12. Special features:**

Students receive a broad education in engineering which also provides the flexibility for more specialist focus later in the degree. Opportunities are available to undertake industrial placement with a sponsoring company (with Industry). Students following “with a Year Abroad” programmes study for year out of the UK. The year abroad does not replace any of the Leicester course material, rather it provides an opportunity for the students’ to broaden their experience.

There are two possible set of first year modules. The “option 1” first year is common to the Aerospace, Mechanical and General degree programmes. This derives from the departments General Engineering ethos that these engineering students benefit from a solid foundation in the fundamentals of all engineering disciplines. The “option 2” first year forms part of the Software and Electronic Engineering degree and the Communications and Electronic Engineering degree. In this

case the EG1101 Mechanical Engineering module and the associated mechanical laboratory exercises in EG1003 Experimentation 1 are not considered appropriate. These are replaced by two Computer Science modules. EG1002 Engineering Design is replaced by EG1214 Introduction to C programming and EG1024 Electrical Design and Experimentation, which consists of the electrical aspects of

EG1002 and EG1003. Students on the Electrical and Electronic Engineering degree programmes are given the choice of taking either option 1 or 2 first year. Students who take EG1214 will take EG3205 in third year instead of EG3204.

## **13. Indications of programme quality**

All of the courses are accredited by the appropriate professional engineering institutions and the MEng programmes offer direct route to Chartered Engineer status (CEng) (further learning following graduation is required to obtain CEng with a BEng degree).

## **14. External Examiners**

The details of the External Examiner(s) for this programme and the most recent External Examiners’ reports can be found [here](#).

**Appendix 1: Programme structure** (programme regulations) (overleaf)

**Appendix 2: Module specifications**

See module specification database <http://www.le.ac.uk/sas/courses/documentation>

**Appendix 3: Skills matrix**

## Appendix 4: Programme Structure

### DEPARTMENT OF ENGINEERING

---

#### FIRST YEAR MODULES FOR BEng/MEng AEROSPACE, MECHANICAL AND GENERAL ENGINEERING DEGREES AND BEng/MEng ELECTRICAL AND ELECTRONIC WHO TAKE OPTION 1 FIRST YEAR

---

#### FIRST YEAR MODULES (OPTION 1)

		SEMESTER 1	
Core Modules			Credits
EG1003	EXPERIMENTATION 1		5
EG1101	MECHANICAL ENGINEERING		15
EG1001	MATHS WITH COMPUTATION		15
EG1002	ENGINEERING DESIGN		10
EG1201	ELECTRICAL AND ELECTRONIC ENGINEERING		15
<b>Semester Total</b>			<b>60</b>
		SEMESTER 2	
EG1003	EXPERIMENTATION 1		5
EG1101	MECHANICAL ENGINEERING		15
EG1001	MATHS WITH COMPUTATION		15
EG1002	ENGINEERING DESIGN		10
EG1201	ELECTRICAL AND ELECTRONIC ENGINEERING		15
<b>Semester Total</b>			<b>60</b>

- Note:* 1) Modules that appear in boxes are common to all Engineering degrees  
2) Module EG1003 is taken across the year and totals 10 credits  
3) Module EG1002 is taken across the year and totals 20 credits  
4) Modules EG1101, EG1001, and EG1201 are taken across the year and total 30 credits each

---

#### BEng AEROSPACE

---

#### SECOND YEAR MODULES

		SEMESTER 1	
Core Modules			Credits
EG2001	COMPUTER-BASED MODELLING		10
EG2003	EXPERIMENTATION 2		5
EG2005	ENGINEERING DESIGN 2		5
EG2017	BUSINESS SIMULATION		10
EG2401	INTRODUCTION TO MATERIALS AND AIRCRAFT PERFORMANCE		10
EG2103	MECHANICS OF STRUCTURES		10
EG2102	THERMODYNAMICS AND FLUID DYNAMICS		10
<b>Semester Total</b>			<b>60</b>
		SEMESTER 2	
Core Modules			Credits
EG2003	EXPERIMENTATION 2		5
EG2005	ENGINEERING DESIGN 2		15
EG2401	INTRODUCTION TO MATERIALS AND AIRCRAFT PERFORMANCE		10
EG2103	MECHANICS OF STRUCTURES		10
EG2102	THERMODYNAMICS AND FLUID DYNAMICS		10
EG2301	CLASSICAL CONTROL		10

**Semester Total 60**

Note: Modules EG2401, EG2103, EG2102, EG2003, EG2005 are taken across the year and total 20, 20, 20, 10 and 20 credits respectively

### THIRD YEAR MODULES

#### SEMESTER 1

Core Modules		Credits
EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10
EG3401	FLIGHT DYNAMICS, CONTROL & NAVIGATION	10
EG3102	THERMODYNAMICS AND FLUID DYNAMICS 2	10
EG3103	MECHANICS OF STRUCTURES 2	10
EG3311	STATE VARIABLE CONTROL	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

Core Modules		Credits
EG3005	THIRD YEAR PROJECT	20
EG3401	FLIGHT DYNAMICS, CONTROL & NAVIGATION	10
EG3102	THERMODYNAMICS AND FLUID DYNAMICS 2	10
EG3103	MECHANICS OF STRUCTURES 2	10
<b>Optional Modules</b>		
10 credits selected from:		
EG3321	DIGITAL CONTROL	10
EG3322	SIGNAL PROCESSING	10
EG3121	AEROSPACE MATERIALS	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG3401, EG3102, EG3103, and EG3005, are taken across the year and total 20, 20, 20 and 30 credits respectively.

---

### MEng AEROSPACE

#### FIRST, SECOND AND THIRD YEAR MODULES

As for the BEng Aerospace degree

#### FOURTH YEAR MODULES

#### SEMESTER 1

Core Modules		Credits
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10
EG4411	CURRENT TRENDS IN AEROSPACE	10
<b>Optional Modules</b>		
10 credits selected from		
EG4311	ROBUST CONTROL	10
EG4312	MODELLING AND CLASSIFICATION OF DATA	10
EG4112	ADVANCED FLUID DYNAMICS	10
EG4111	UNDERSTANDING SURFACES IN ENGINEERING	10
EG4113	ADVANCED SOLID MECHANICS	10
EG4412	SYSTEMS ENGINEERING AND SPACE CRAFT SYSTEMS	10

Semester Total 60

## SEMESTER 2

Core Modules		Credits
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4421	HOLISTIC AEROENGINE DESIGN	10
<b>Optional Modules</b>		
20 credits selected from:		
EG4122	ADVANCED COMPUTATIONAL FLUID DYNAMICS	10
EG4123	ADVANCED COMPOSITE MECHANICS	10
EG4322	SIGNAL PROCESSING 2	10
EG4321	NONLINEAR CONTROL	10
EG4121	AEROSPACE MATERIALS	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG4006 and EG4002 are taken across the year and total 40 and 20 credits respectively. EG4121 is the same as EG3121 so students cannot take both.

---

### BEng COMMUNICATIONS AND ELECTRONIC (SEE OPTION 2 FIRST YEAR MODULES)

---

## SECOND YEAR MODULES

### SEMESTER 1

Core Modules		Credits
EG2001	COMPUTER-BASED MODELLING	10
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	5
EG2017	BUSINESS SIMULATION	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2202	COMMUNICATIONS 1	10
EG2204	EMBEDDED SYSTEMS	10
<b>Semester Total</b>		<b>60</b>

### SEMESTER 2

Core Modules		Credits
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	15
EG2301	CLASSICAL CONTROL	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2202	COMMUNICATIONS 1	10
EG2204	EMBEDDED SYSTEMS	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG2003, EG2005, EG2203, EG2202 and EG2204 are taken across the year and total 10, 20, 20, 20 and 20 credits respectively.

## THIRD YEAR MODULES

### SEMESTER 1

Core Modules		Credits
EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10
EG3311	STATE VARIABLE CONTROL	10
EG3312	MODELLING AND CLASSIFICATION OF DATA	10

EG3202	COMMUNICATIONS 2	10
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

<b>Core Modules</b>		<b>Credits</b>
EG3005	THIRD YEAR PROJECT	20
EG3321	DIGITAL CONTROL	10
EG3322	SIGNAL PROCESSING 1	10
EG3202	COMMUNICATIONS 2	10
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10
<b>Semester Total</b>		<b>60</b>

*Note:* Modules EG3005, EG3202, and EG3205 are taken across the year and total 30, 20 and 20 credits respectively.

---

#### **MEng COMMUNICATIONS AND ELECTRONIC**

---

#### **FIRST, SECOND AND THIRD YEAR MODULES**

As for the BEng Communications and Electronic Engineering degree

#### **FOURTH YEAR MODULES**

#### **SEMESTER 1**

<b>Core Modules</b>		<b>Credits</b>
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10
EG4212	RADIO SYSTEMS	10
EG4311	ROBUST CONTROL	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

<b>Core Modules</b>		<b>Credits</b>
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4321	NONLINEAR CONTROL	10
EG4322	SIGNAL PROCESSING 2	10
EG4222	RADIO COMMUNICATIONS	10
<b>Semester Total</b>		<b>60</b>

---

#### **BEng ELECTRICAL AND ELECTRONIC (SEE OPTION 1 OR OPTION 2 FIRST YEAR MODULES, DEPENDING ON STUDENT SELECTION)**

---

#### **SECOND YEAR MODULES**

#### SEMESTER 1

<b>Core Modules</b>		<b>Credits</b>
EG2001	COMPUTER-BASED MODELLING	10
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	5
EG2017	BUSINESS SIMULATION	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2201	ELECTRICAL ENGINEERING	10
EG2202	COMMUNICATIONS 1	10

Semester Total 60

**SEMESTER 2**

<b>Core Modules</b>		<b>Credits</b>
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	15
EG2301	CLASSICAL CONTROL	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2201	ELECTRICAL ENGINEERING	10
EG2202	COMMUNICATIONS 1	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG2003, EG2005, EG2203, EG2201 and EG2202 are taken across the year and total 10, 20, 20, 20 and 20 credits respectively.

**THIRD YEAR MODULES**

**SEMESTER 1**

<b>Core Modules</b>		<b>Credits</b>
EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10
EG3311	STATE VARIABLE CONTROL	10
EG3201	ELECTRICAL POWER	10
EG3202	COMMUNICATIONS 2	10
EG3204	PROGRAMMABLE ELECTRONICS	10*
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10*
<b>Semester Total</b>		<b>60</b>

**SEMESTER 2**

<b>Core Modules</b>		<b>Credits</b>
EG3005	THIRD YEAR PROJECT	20
EG3201	ELECTRICAL POWER	10
EG3202	COMMUNICATIONS 2	10
EG3204	PROGRAMMABLE ELECTRONICS	10*
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10*
<b>Optional Modules</b>		
10 credits selected from:		
EG3321	DIGITAL CONTROL	10
EG3322	SIGNAL PROCESSING	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG3005, EG3201, EG3202, EG3204 and EG3205 are taken across the year and total 30, 20, 20, and 20 credits respectively.

\*EG3204 and EG3205 cannot be taken together. Option 1 first year students must take EG3204. Option 2 first year students must take EG3205.

---

**MEng ELECTRICAL AND ELECTRONIC**

---

**FIRST, SECOND AND THIRD YEAR MODULES**

As for the BEng Electrical and Electronic degree

**FOURTH YEAR MODULES****SEMESTER 1****Core Modules**

		<b>Credits</b>
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10

**Optional Modules**

20 credits selected from:

EG4311	ROBUST CONTROL	10
EG4211	ADVANCED ELECTRICAL MACHINES	10
EG4212	RADIO SYSTEMS	10
EG4312	MODELLING AND CLASSIFICATION OF DATA	10

**Semester Total**      **60**

**SEMESTER 2****Core Modules**

		<b>Credits</b>
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10

**Optional Modules**

30 credits selected from:

EG4322	SIGNAL PROCESSING 2	10
EG4321	NONLINEAR CONTROL	10
EG4222	RADIO COMMUNICATIONS	10
EG4221	ELECTRICALLY CONTROLLED MOTORS	10
EG4224	EMBEDDED SYSTEMS 2	10

**Semester Total**      **60**

*Note:* Modules EG4006, and EG4002 are taken across the year and total 40 and 20 credits respectively.

---

**BEng GENERAL**

---

**SECOND YEAR MODULES****SEMESTER 1****Core Modules**

		<b>Credits</b>
EG2001	COMPUTER-BASED MODELLING	10
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	5
EG2017	BUSINESS SIMULATION	10

**Optional Modules**

See below

## SEMESTER 2

### Core Modules

EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	15
EG2301	CLASSICAL CONTROL	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG2003 and EG2005 are taken across the year and total 10 and 20 credits respectively

### Optional Modules

60 credits:

Select a minimum of one and a maximum of two from:

EG2101	MATERIALS 1: PROPERTIES AND PROCESSING	20
EG2102	THERMODYNAMICS AND FLUID DYNAMICS	20
EG2103	MECHANICS OF STRUCTURES	20

Select a minimum of one and a maximum of two from:

EG2201	ELECTRICAL ENGINEERING	20
EG2202	COMMUNICATIONS 1	20
EG2203	ELECTROMAGNETISM AND ELECTRONICS	20

Note: all optional modules run across the academic year

## THIRD YEAR MODULES

### SEMESTER 1

#### Core Modules

Credits

EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10

#### Optional Modules

See below

### SEMESTER 2

**Semester Total**      **60**

#### Core Modules

Credits

EG3005	THIRD YEAR PROJECT	20
--------	--------------------	----

#### Optional Modules\*

80 credits:

See below

**Semester Total**      **60**

The following semester one module:

EG3311      STATE VARIABLE CONTROL

10 must be selected in combination with one of the following semester two modules:

EG3321	DIGITAL CONTROL	10
EG3322	SIGNAL PROCESSING	10

Select a minimum of one and a maximum of two from:

EG3201	ELECTRICAL POWER	20
EG3202	COMMUNICATIONS 2	20
EG3204	PROGRAMMABLE ELECTRONICS	20



Select a minimum of one and a maximum of two from:

EG3101	MATERIALS 2: FAILURE MECHANISMS AND TRIBOLOGY	20
EG3102	THERMODYNAMICS AND FLUID DYNAMICS 2	20
EG3103	MECHANICS OF STRUCTURES 2	20

The modules EG3201, EG3202, EG3204, EG3101, EG3102, EG3103 run across the year

\* At least 20 credits of Mechanical options and 20 credits of Electrical options must be taken each year

## MEng GENERAL

### FIRST, SECOND AND THIRD YEAR MODULES

As for the BEng General degree

### FOURTH YEAR MODULES

#### SEMESTER 1

##### Core Modules

		Credits
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10

##### Optional Modules

EG4311	ROBUST CONTROL	10
EG4112	ADVANCED FLUID DYNAMICS	10
EG4212	RADIO SYSTEMS	10
EG4312	MODELLING AND CLASSIFICATION OF DATA	10
EG4211	ADVANCED ELECTRICAL MACHINES	10
EG4111	UNDERSTANDING SURFACES IN ENGINEERING	10
EG4113	ADVANCED SOLID MECHANICS	10
EG4411	CURRENT TRENDS IN AEROSPACE	10
EG4412	SYSTEMS ENGINEERING AND SPACECRAFT SYSTEMS	10
EG4214	EMBEDDED SYSTEMS 1	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

		Credits
EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10

##### Optional Modules

30 credits selected from:\*

EG4122	ADVANCED COMPUTATIONAL FLUID DYNAMICS	10
EG4123	ADVANCED COMPOSITE MECHANICS	10
EG4221	ELECTRONICALLY CONTROLLED MOTORS	10
EG4322	SIGNAL PROCESSING 2	10
EG4321	NONLINEAR CONTROL	10
EG4421	HOLISTIC AEROENGINE DESIGN	10
EG4222	RADIO COMMUNICATIONS	10
EG4224	EMBEDDED SYSTEMS 2	10
EG4121	AEROSPACE MATERIALS	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG4006, and EG4002 are taken across the year and total 40 and 20 credits respectively.

\* At least 20 credits of Mechanical options and 20 credits of Electrical options must be taken each year  
EG4214 AND EG4224 cannot be taken if EG2204 has been taken in the past

---

## BEng MECHANICAL

---

### SECOND YEAR MODULES

#### SEMESTER 1

Core Modules		Credits
EG2001	COMPUTER-BASED MODELLING	10
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	5
EG2017	BUSINESS SIMULATION	10
EG2101	MATERIALS 1: PROPERTIES AND PROCESSING	10
EG2102	THERMODYNAMICS AND FLUID DYNAMICS	10
EG2103	MECHANICS OF STRUCTURES	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

Core Modules		Credits
EG2003	EXPERIMENTATION 2	5
EG2005	ENGINEERING DESIGN 2	10
EG2101	MATERIALS 1: PROPERTIES AND PROCESSING	10
EG2102	THERMODYNAMICS AND FLUID DYNAMICS	10
EG2103	MECHANICS OF STRUCTURES	10
EG2301	CLASSICAL CONTROL	10
<b>Semester Total</b>		<b>60</b>

Note: Modules EG2003, EG2005, EG2101, EG2102, EG2103 are taken across the year and total 10, 20, 20, 20 and 20 credits respectively

### THIRD YEAR MODULES

#### SEMESTER 1

Core Modules		Credits
EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10
EG3101	MATERIALS 2: FAILURE MECHANISMS AND TRIBOLOGY	10
EG3102	THERMODYNAMICS AND FLUID DYNAMICS 2	10
EG3103	MECHANICS OF STRUCTURES 2	10
EG3311	STATE VARIABLE CONTROL	10
<b>Semester Total</b>		<b>60</b>

#### SEMESTER 2

##### Core Modules

##### Credits

EG3005	THIRD YEAR PROJECT	20
EG3101	MATERIALS 2: FAILURE MECHANISMS AND TRIBOLOGY	10

EG3102	THERMODYNAMICS AND FLUID DYNAMICS 2	10
EG3103	MECHANICS OF STRUCTURES 2	10

#### Optional Modules

10 credits selected from:

EG3321	DIGITAL CONTROL	10
EG3322	SIGNAL PROCESSING 1	10

**Semester Total      60**

*Note:* Modules EG3005, EG3101, EG3102, and EG3103 are taken across the year and total 30, 20, 20 and 20 credits respectively

### MEng MECHANICAL

#### FIRST, SECOND AND THIRD YEAR MODULES

As for the BEng General degree

#### FOURTH YEAR MODULES

##### SEMESTER 1

**Core Modules** **Credits**

EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10

#### Optional Modules

20 credits selected from:

EG4311	ROBUST CONTROL	10
EG4312	MODELLING AND CLASSIFICATION OF DATA	10
EG4112	ADVANCED FLUID DYNAMICS	10
EG4111	UNDERSTANDING SURFACES IN ENGINEERING	10
EG4113	ADVANCED SOLID MECHANICS	10
EG4411	CURRENT TRENDS IN AEROSPACE	10
EG4412	SYSTEMS ENGINEERING AND SPACECRAFT SYSTEMS	10

**Semester Total      60**

##### SEMESTER 2

**Core Modules** **Credits**

EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10

#### Optional Modules

30 credits selected from:

EG4122	ADVANCED COMPUTATIONAL FLUID DYNAMICS	10
EG4123	ADVANCED COMPOSITE MECHANICS	10
EG4322	SIGNAL PROCESSING 2	10
EG4321	NONLINEAR CONTROL	10
EG4121	AEROSPACE MATERIALS	10
EG4421	HOLISTIC AEROENGINE DESIGN	10

**Semester Total      60**

*Note:* Modules EG4006 and EG4002 are taken across the year and total 40, and 20 credits respectively.

---

**BEng SOFTWARE AND ELECTRONIC and BEng COMMUNICATIONS AND ELECTRONIC and BEng ELECTRICAL AND ELECTRONIC TAKING OPTION 2 FIRST YEAR**

---

**FIRST YEAR MODULES  
(OPTION 2)**

**SEMESTER 1**

**Core Modules**

EG1001	MATHS WITH COMPUTATION	15
EG1214	INTRODUCTION TO C PROGRAMMING	10
EG1201	ELECTRICAL AND ELECTRONIC ENGINEERING	15
CO1003	PROGRAM DESIGN	20
<b>Semester Total</b>		<b>60</b>

**SEMESTER 2**

**Core Modules**

**Credits**

EG1001	MATHS WITH COMPUTATION	15
EG1024	ELECTRICAL DESIGN AND EXPERIMENTATION	10
EG1201	ELECTRICAL AND ELECTRONIC ENGINEERING	15
CO1005	DATA STRUCTURE AND DEVELOPMENT ENVIRONMENTS	20
<b>Semester Total</b>		<b>60</b>

*Note:* 1) Module EG1001 and EG1201 are taken across the year and total 30 credits

---

BEng SOFTWARE AND ELECTRONIC

---

**SECOND YEAR MODULES**

**SEMESTER 1**

**Core Modules**

**Credits**

EG2005	ENGINEERING DESIGN 2	10
EG2017	BUSINESS SIMULATION	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2204	EMBEDDED SYSTEMS	10
CO2006	SOFTWARE ENGINEERING AND SYSTEM DEVELOPMENT	20
<b>Semester Total</b>		<b>60</b>

**Core Modules**

**SEMESTER 2**

EG2005	ENGINEERING DESIGN 2	10
EG2203	ELECTROMAGNETISM AND ELECTRONICS	10
EG2204	EMBEDDED SYSTEMS	10
EG2301	CLASSICAL CONTROL	10
CO2017	OPERATING SYSTEMS, NETWORKS AND DISTRIBUTED SYSTEMS	20
<b>Semester Total</b>		<b>60</b>

*Note:* EG2005, EG2203, EG2204 are taken throughout the second year and total 20, 20, 20 credits respectively

## THIRD YEAR MODULES

### SEMESTER 1

Core Modules		Credits
EG3005	THIRD YEAR PROJECT	10
EG3007	MANAGEMENT	10
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10
<b>Optional Modules</b>		
See below		
<b>Semester Total</b>		<b>60</b>

### SEMESTER 2

#### Core Modules

EG3005	THIRD YEAR PROJECT	20
EG3205	PROGRAMMING MICROELECTRONIC AND MULTI-CORE SYSTEMS	10

#### Optional Modules

See below 30

**Semester Total 60**

Note: EG3005 and EG3205 are taken throughout the third year and total 30 and 20 credits respectively

#### Optional Modules

A total of 60 credits selected from: Engineering options

#### SEM 1

EG3311 STATE VARIABLE CONTROL 10

#### SEM 2

EG3321 DIGITAL CONTROL 10

EG3322 SIGNAL PROCESSING 10

#### ALL YEAR

EG2202 COMMUNICATIONS 1 20

Computer Science options

#### SEM 1

CO3095 SOFTWARE MEASUREMENT AND QUALITY ASSURANCE 20

#### SEM 2

CO3090 DISTRIBUTED SYSTEMS AND APPLICATIONS 20

CO3099 CRPYTOGRAPHY AND INTERNET SECURITY 20

Notes: An uneven 50-70 or 70-50 credit split is allowed between semesters, as long as 120 credits are taken in total. Hence students must select the equivalent of 20 to 40 credits of optional modules in either semester, which total 60 credits over the year. It is not possible to take two CO module in a single semester, i.e. it is not possible to take CO3090 and CO3099 together. Any CO modules that are not taken in the third year can be taken by MEng students in the fourth year (subject to this rule).

---

**MEng SOFTWARE AND ELECTRONIC**

---

**FIRST, SECOND AND THIRD YEAR MODULES**

As for the BEng Software and Electronic degree

**FOURTH YEAR MODULES****SEMESTER 1**

EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10
EG4017	ENGINEERING IN SOCIETY AND PROFESSIONAL DEVELOPMENT	10

**Optional Modules**

10 to 30 credits selected from:

EG4311	ROBUST CONTROL	10
EG4312	MODELLING AND CLASSIFICATION OF DATA	10
EG4212	RADIO SYSTEMS	10
CO4104	C++ PROGRAMMING AND ADVANCED ALGORITHM DESIGN	20
CO3095	SOFTWARE MEASUREMENT AND QUALITY ASSURANCE	20

**Semester Total 50-70**

**SEMESTER 2**

EG4006	FOURTH YEAR PROJECT	20
EG4002	DESIGN PROJECT MANAGEMENT	10

**Optional Modules**

20 to 40 credits selected from:

EG4321	NONLINEAR CONTROL	10
EG4322	SIGNAL PROCESSING 2	10
EG4222	RADIO COMMUNICATIONS	10
CO3090	DISTRIBUTED SYSTEMS AND APPLICATIONS	20
CO3099	CRYPTOGRAPHY AND INTERNET SECURITY	20

**Semester Total 50-70**

*Note: Modules EG4006, EG4002 are taken across the year and total 40 and 20 credits respectively.*

*An uneven 50-70 or 70-50 credit split is allowed between semesters, as long as 120 credits are taken in total.*

It is not possible to take two CO modules in a single semester, i.e. it is not possible to take CO4104 and CO3095 together, and it is not possible to take CO3090 and CO3099 together.

---

**BEng/MEng degrees WITH A YEAR IN INDUSTRY**

BEng/MEng (Aerospace) with a Year in Industry; BEng/MEng (Communications and Electronic) with a Year in Industry; BEng/MEng (Electrical and Electronic) with a Year in Industry; BEng/MEng (General) with a Year in Industry; BEng/MEng (Mechanical) with a Year in Industry; BEng/MEng (Software and Electronic) with a Year in Industry

---

For BEng students, the year in industry must be taken in the third year of their course. The schedule for this programme is given below.

For MEng students, a single year in industry can be taken either in the third year or the fourth year of their course. The schedule for MEng students taking a year in industry in their third year is given below. The schedule is similar for MEng students taking the year in industry in their fourth year, with the third year and fourth years interchanged.

**FIRST AND SECOND YEAR MODULES**

As for the first and second years of BEng Aerospace/ BEng Communications and Electronic / BEng Electrical and

Electronic/ BEng General/ BEng Mechanical/BEng Software and Electronic, as appropriate.

### **THIRD YEAR MODULES (In Industry Year)**

- 1) Students will work within the sponsoring company for one year between 1 July of the second year of the course and the start of the following academic year.
- 2) During their one year placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University.
- 3) Students will be expected to keep a log book recording their training and experience which is to be presented for approval to the sponsoring company and the University.
- 4) Students will be issued with a 'Certificate of Industrial Studies' indicating successful completion of their industrial placement.

BEng: Students who do not satisfactorily complete their industrial placement will be transferred to the BEng variant of their respective degree strand (e.g. BEng Aerospace, BEng Communications and Electronic, BEng General etc.).

MEng: Students who do not satisfactorily complete their industrial placement will be transferred to the MEng variant of their respective degree strand (e.g. MEng Aerospace, MEng Communications and Electronic, MEng General etc.).

### **FOURTH YEAR MODULES**

BEng: As for the third year of the BEng Aerospace/ BEng Communications and Electronic / BEng Electrical and Electronic/ BEng General/ BEng Mechanical/ BEng Software and Electronic, as appropriate.

MEng: As for the third year of the MEng Aerospace/ MEng Communications and Electronic / MEng Electrical and Electronic/ MEng General/ MEng Mechanical/ MEng Software and Electronic, as appropriate.

### **FIFTH YEAR MODULES (MEng degrees with a Year in Industry only)**

As for the fourth year of the MEng Aerospace/ MEng Communications and Electronic / MEng Electrical and Electronic/ MEng General/ MEng Mechanical/ MEng Software and Electronic, as appropriate.

---

### **BEng/MEng degrees WITH A YEAR ABROAD**

BEng/MEng (Aerospace) with a Year Abroad; BEng/MEng (Communications and Electronic) with a Year Abroad; BEng/MEng (Electrical and Electronic) with a Year Abroad; BEng/MEng (General) with a Year Abroad; BEng/MEng (Mechanical) with a Year Abroad; BEng/MEng (Software and Electronic) with a Year Abroad

---

### **FIRST AND SECOND YEAR MODULES**

See BEng Aerospace/ BEng Communications and Electronic / BEng Electrical and Electronic/ BEng General/ BEng Mechanical/BEng Software and Electronic, as appropriate.

### **THIRD YEAR MODULES (Year Abroad)**

Students spend the third year taking approved modules at one of the North American institutions associated with the Department of Engineering. Students will normally be assessed according to the criteria of the host institution, but if it is not practicable to retake failed modules there, they may be allowed to submit a report demonstrating how they have nevertheless achieved the learning outcomes for the year. Marks from the year will not count towards the degree class.

BEng: Students who do not satisfactorily complete the year will be transferred to the standard BEng of their respective degree strand (e.g. BEng Aerospace, BEng Communications and Electronic, BEng General etc.).

MEng: Students who do not satisfactorily complete the year will be transferred to the standard MEng of their respective degree strand (e.g. MEng Aerospace, MEng Communications and Electronic, MEng General etc.).

### **FOURTH YEAR MODULES**

BEng: As for the third year of the BEng Aerospace/ BEng Communications and Electronic / BEng Electrical and Electronic/ BEng General/ BEng Mechanical/ BEng Software and Electronic, as appropriate.

Eng: As for the third year of the MEng Aerospace/ MEng Communications and Electronic / MEng Electrical and Electronic/ MEng General/ MEng Mechanical/ MEng Software and Electronic, as appropriate.

### **FIFTH YEAR MODULES (MEng degrees with a Year Abroad only)**

As for the fourth year of the MEng Aerospace/ MEng Communications and Electronic / MEng Electrical and Electronic/ MEng General/ MEng Mechanical/ MEng Software and Electronic, as appropriate.

<b>Programme Learning Outcomes</b>	EG1002	EG1003	EG1001	Group 1	EG2001	EG2005	EG2003	EG2204	Group 2	Work Placement	EG3005	EG2017	EG4006	EG4002	EG4017
<b>(b) Transferable skills</b>															
<b>(i) Oral Communication</b>															
Present and discuss technical information orally, in appropriate forms for given audiences.		X	X		X	X	X	X		X	X	X	X	X	X
<b>(ii) Written Communication</b>															
Report and discuss engineering work such as tests, calculations and designs in a form appropriate to the intended recipient, with appropriate use of scientific terminology and style.	X	X				X	X			X	X	X	X		X
<b>(iii) Information Technology</b>															
Use a broad range of common IT tools such as word-processor, spreadsheets, email, file transfer and the web.	X	X				X	X			X	X		X		
Use engineering IT tools and software where appropriate.	X		X	X	X	X		X	X	X	X		X		
<b>(iv) Numeracy</b>															
Manipulate and sort data to extract useful information.		X	X	X			X		X	X	X	X	X		
Judge the degree of accuracy appropriate to solving problems and presenting results.		X	X	X		X	X		X	X	X	X	X		
<b>(v) Team working</b>															
Work collaboratively as part of a team undertaking a range of different team roles.	X	X				X				X		X	X	X	



Programme Learning Outcomes	EG1002	EG1003	EG1001	Group 1	EG2001	EG2005	EG2003	EG2204	Group 2	Work Placement	EG3005	EG2017	EG4006	EG4002	EG4017
<b>(vi) Problem solving</b>															
Solve problems through the integration of knowledge of mathematics, science, information technology, design, business context and engineering practice.		X	X	X	X	X	X		X	X	X	X	X		
Use creativity and innovation in the solution of problems.	X					X				X	X	X	X		
Identify the key aspects of a problem and use estimates and approximations in its solution.		X	X	X	X	X	X		X	X	X	X	X		
Apply standard management techniques to plan and organise teams and projects (MEng degrees principally).						X				X		X	X	X	X
<b>(vii) Information handling</b>															
Identify information that would be useful in specific design or project tasks; search for, assess, filter and communicate it.	X					X				X	X	X	X	X	
<b>(viii) Skills for lifelong learning</b>															
Learn independently and expand their knowledge and understanding of their discipline, using the mathematical and other knowledge gained during the course.										X	X		X		
Assess own skills and abilities; identify and address weaknesses and opportunities.										X				X	X

Group 1 : EG1101, 1201.

Group 2 : EG2101, 2102, 2103, 2201, 2202, 2203, 2301, 2401