UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate) FOR ENTRY YEAR: 2025/26

Date created: 07/04/2021 **Last amended:** 07/05/2026 **Version no.** 3

1. Programme title(s) and code(s):

MEng Mechanical Engineering
MEng Mechanical Engineering with a Year in Industry
MEng Mechanical Engineering with a Year Abroad
BEng Mechanical Engineering
BEng Mechanical Engineering with a Year in Industry
BEng Mechanical Engineering with a Year Abroad
MSci Mechanical Engineering*
MSci Mechanical Engineering with a Year in Industry*
MSci Mechanical Engineering with a Year Abroad*
BSc Mechanical Engineering [$]
BSc Mechanical Engineering) with a Year in Industry[$]
BSc Mechanical Engineering) with a Year Abroad[$]
Dip HE Mechanical Engineering*
Cert HE Mechanical Engineering*

Notes

* An award marked with an asterisk is only available as an exit award and is not available for students to register onto and is not accredited with the Engineering Council

[$] An award marked with a dollar sign is not accredited with the Engineering Council, and is only available to students who have been transferred on to it at the end of year 2 by the exam board.

a) HECOS Code

HECOS Code	%
100190	100

b) UCAS Code (where required)

Variant	UCAS code	Engineering Council ACAD
MEng (4yrs)	H305	1467
MEng with industry (5yrs)	H306	1471
MEng with Year Abroad (5yrs)	H307	9557
BEng (3yrs)	H300	1451
BEng with industry (4yrs)	H302	1470
BEng with Year Abroad (4yrs)	H301	9560

There is a foundation year option nominally for the General Engineering programme (H199) which gives students the option to switch to the other programmes.

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 is four years

The maximum period of registration six years

BEng

Full-time

The normal period of registration is three years

The maximum period of registration five 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:
A/AS-levels: ABB including Maths. Two AS-levels considered in place of one A-level.
EPQ with A-levels: BBB + EPQ at grade B. A-level subjects to include Maths.
GCSEs: Grade C/4 in English Language.
BTEC Nationals: DDM in Engineering including Further Maths at Distinction.
International Baccalaureate: Pass Diploma with 30 points, with grade 5 in Maths HL. Must include minimum of grade 4 in English A or 5 in English B if minimum of grade 4/C not held in English Language at GCSE.
Access to HE Diploma: Pass Engineering Diploma with 45 credits at level 3, 30 of which are at Distinction. To include all level 3 Maths modules at Distinction.
T Levels: Distinction in either: Design and Development for Engineering and Manufacturing or Engineering, Manufacturing, Processing and Control or Maintenance, Installation and Repair for Engineering and Manufacturing (plus Maths test).

BEng. Typical offer:
A/AS-levels: ABB including Maths. Two AS-levels considered in place of one A-level.
EPQ with A-levels: BBB + EPQ at grade B. A-level subjects to include Maths.
GCSEs: Grade C/4 in English Language.
BTEC Nationals: DDM in Engineering including Further Maths at Distinction.
International Baccalaureate: Pass Diploma with 30 points, with grade 5 in Maths HL. Must include minimum of grade 4 in English A or 5 in English B if minimum of grade 4/C not held in English Language at GCSE.
Access to HE Diploma: Pass Engineering Diploma with 45 credits at level 3, 30 of which are at Distinction. To include all level 3 Maths modules at Distinction.

T Levels: Distinction in either: Design and Development for Engineering and Manufacturing or Engineering, Manufacturing, Processing and Control or Maintenance, Installation and Repair for Engineering and Manufacturing (plus Maths test).

For Foundation Year Variant:

A-levels: BCC or points equivalent from your best three A-levels. Must have taken Maths or Physics at A-level.
GCSE: Grade C/4 in English.
BTEC Diploma: DDM in a science related subject, which must include appropriate maths and science content. It may be required to take an additional maths assessment test.
International Baccalaureate: Pass diploma with 26 points minimum, and must include appropriate maths and science content.
Access to HE: Pass diploma with 24 Distinctions in a science related subject, which must include appropriate maths and science content. It may be required to take an additional maths assessment test.
T-Levels: Merit overall in Design and Development for Engineering and Manufacturing or Engineering, Manufacturing, Processing and Control or Maintenance Installation and Repair. Maths test required.

For the aims, learning outcomes and application criteria for the GCSA Year Abroad please see https://le.ac.uk/study/undergraduates/courses/abroad

6. Accreditation of Prior Learning

APL will not be accepted for exemptions from individual modules, however may be considered fo r 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 variants of the programmes aim to satisfy the criteria of the accrediting engineering institutions. These are based on the Engineering Council's Accreditation of Higher Education Programmes (AHEP4) learning outcomes. These are defined in 5 overarching engineering specific areas of learning:

- Science and Mathematics (C1, M1)
- Engineering Analysis (C2-C4, M2-M4)
- Design and Innovation (C5-C6, M5-M6)
- The Engineer and Society (C7-C11, M7-M11)
- Engineering Practice (C12-C18, M12-M18)

Programme-level Intended Learning Outcomes for the degree programmes are mapped, using the shorthand codes above, to these overarching outcomes in section 9 - Programme Outcomes below. Each of these overarching engineering specific areas of learning are divided into a maximum of 7 specific outcomes (e.g. C12 – C18). These are mapped to module-level Intended Learning Outcomes and assessment elements, and are detailed in the module specifications.

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 relevant science and mathematics to allow analysis and design of electro-mechanical engineering systems that improve quality of life through being able to integrate knowledge from other engineering disciplines.
3. develop students' knowledge and understanding of the tools and techniques used for modelling, analysis, design and control of complex electro-mechanical engineering systems;
4. develop students' detailed knowledge and understanding of engineering applications used in research and engineering industries;
5. cultivate the synergy between teaching and research; and
6. foster students' independent learning and organisational skills.
7. Meet the needs of the appropriate professional institutions and satisfy the educational requirements for registration by the Engineering Council at CEng level.

The MEng programmes aim to develop greater depth and breadth of knowledge and the ability to apply methods critically and in ambiguous situations, to optimise new and developing engineering technology, to identify projects and technical potential and to lead engineering activities and teams by managing technical and commercial risks and through change.

For the "with Industry" variant only, these additional programme aims apply:

- Prepare students for career and training opportunities which relates to their degree – in both the private and public sectors, and voluntary organisations.
- Construct effective applications for placement opportunities
- Provide students the opportunity to recognise suitable plans for transitioning into the workplace

For the "with Year Abroad" variant only, these additional programme aims apply:

- provide students with the opportunity to spend one year studying out of the UK to gain an international perspective on their discipline and experience of living and study in a different culture and possibly improve their language skills.

8. Reference points used to inform the programme specification

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- University Education Strategy
- University Assessment Strategy [login required]
- University of Leicester Periodic Developmental Review Report
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data
- Engineering Accreditation Board (EAB) Bachelors and Integrated Masters Degree Learning Outcomes (AHEP 4th Edition)
- UK-SPEC (UK Standard for Professional Engineering Competence)
- Engineering Council Compensation and Condonement requirements November 2021.

9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

a) Discipline specific knowledge and competencies

i) Mastery of an appropriate body of knowledge

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Apply knowledge of mathematics, statistics, natural science and engineering principles to the solution of complex problems, including materials, applied thermodynamics, fluids, dynamics, structures, failure mechanisms. Some of the knowledge will be at the forefront of Mechanical Engineering (C1).	Lectures, tutorials, seminars, laboratory practical, 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.
[MEng only] Apply comprehensive knowledge of mathematics, statistics, natural science and engineering principles to the solution of complex problems. Much of the knowledge will be at the forefront of Mechanical Engineering informed by a critical awareness of new development and the wider context of engineering (M1).	As above.	As above.

ii) Understanding and application of key concepts and techniques

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Select and apply appropriate computational and analytical techniques to model complex problems in Mechanical Engineering, recognising the limitations of the techniques employed. (C3)	Lecture, tutorial, computer practical class, laboratory practical.	Examination, laboratory report, oral and poster presentation, contribution to discussion, problem-based exercise, design task, simulation exercise, group report, project report.
Design solutions for complex problems that meet a combination of societal, user, business and customer needs as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards. (C5)	Lecture, tutorial, problem solving class, independent project, group project, project supervision.	Examination, laboratory report, oral and poster presentation, contribution to discussion, problem-based exercise, design task, simulation exercise, group report, project report.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Use practical laboratory and workshop skills to investigate complex problems. (C12, M12)	Lecture, tutorial, independent research, laboratory practical, computer practical class, project supervision.	laboratory report, oral and poster presentation, design task, group report, project report.
Select and apply appropriate materials, equipment, engineering technologies and processes, recognising their limitations. (C13, M13)	Laboratory practical, group research project, independent research project, design task.	Laboratory report, written assignment, work placement report, design report, project report.
Discuss the role of quality management systems and continuous improvement in the context of complex problems. (C14, M14)	Lecture, tutorial, independent research, project supervision, work placement, design tasks, individual and group project.	Laboratory report, written assignment, work placement report, design report, group report.
Apply knowledge of engineering management principles, commercial context, project and change management, and relevant legal matters including intellectual property rights. (C15, M15)	As above.	As above.
[with Industry or with Year Abroad only] Work as an engineer in an industrial [with Industry] or international setting [with Year Abroad].	Work/International placement	Work placement report/International Year Assessment.
[MEng only] Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed. (M3)	Lecture, tutorial, computer practical class, laboratory practical.	Examination, laboratory report, oral and poster presentation, contribution to discussion, problem-based exercise, design task, simulation exercise, group report, project report.
Design solutions for complex problems that evidence some originality and meet a combination of societal, user, business and customer needs as appropriate. This will involve consideration of applicable health & safety, diversity, inclusion, cultural, societal, environmental and commercial matters, codes of practice and industry standards. (M5)	Lecture, tutorial, problem solving class, independent project, group project, project supervision.	As above.

iii) Critical analysis of key issues

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Analyse complex problems in mechanical engineering to reach substantiated conclusions using first principles of mathematics, statistics, natural science and engineering principles. (C2)	Lecture, tutorial, problem solving class computer practical class, example sheet, coursework assignment, oral and poster presentation.	Examination, laboratory report, oral and poster presentation, contribution to discussion, problem-based exercise, design task, simulation exercise, group report, project report.
Apply an integrated or systems approach to the solution of complex problems. (C6, M6)	Design task, laboratory practical, simulation exercise, independent project, group project, industrial/research seminars.	Problem solving exercise, simulation, design-and-build task, independent research, group report, oral and poster presentations, project report.
Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts. (C7)	Lecture, design task, laboratory practical, simulation exercise, group project, independent project, industrial/research seminar.	Work placement report, simulation exercise, project report, coursework assignment, oral and poster presentation, group report.
Identify and analyse ethical concerns and make reasoned ethical choices informed by professional codes of conduct. (C8, M8)	Lecture, work placement, independent research, group project, independent project.	Work placement report, project report, oral and poster presentation, group report.
Use a risk management process to identify, evaluate and mitigate risks (the effects of uncertainty) associated with a particular project or activity. (C9, M9)	Lecture, tutorial, problem solving exercise, independent research project, group project, Design task, industrial/research seminar.	Design review and presentation, laboratory (and/or work placement) report, coursework assignment, oral and poster presentation, group project, independent project.
Adopt a holistic and proportionate approach to the mitigation of security risks. (C10, M10)	Lecture, tutorial, independent research, group project, laboratory practical, computer laboratory practical.	Coursework assignment, oral and poster presentation, group project, project report, design review and presentation.
[MEng only] Formulate and analyse complex problems to reach substantiated conclusions. This will involve evaluating available data using first principles of mathematics, statistics, natural science and engineering principles, and using engineering judgment to work with information that may be uncertain or incomplete, discussing the limitations of the techniques employed. (M2)	Lecture, tutorial, problem solving class computer practical class, example sheet, coursework assignment, oral and poster presentation.	Examination, laboratory report, oral and poster presentation, contribution to discussion, problem-based exercise, design task, simulation exercise, group report, project report.
Evaluate the environmental and societal impact of solutions to complex problems (to include the entire life cycle of a product or process) and minimise adverse impacts. (M7)	Lecture, design task, laboratory practical, simulation exercise, group project, independent project, industrial/research seminar.	Work placement report, simulation exercise, project report, coursework assignment, oral and poster presentation, group report.

iv) Clear and concise presentation of material

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Communicate effectively on complex engineering matters with technical and non-technical audiences. (C17)	Tutorial, group project, independent research, project supervision.	Oral and poster presentation, portfolio, Written assignments, laboratory report, essay, project report, group report.
[MEng only] Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used. (M17)	As above.	As above.

v) Critical appraisal of evidence with appropriate insight

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Select and evaluate technical literature and other sources of information to address complex problems. (C4)	Tutorial, independent project, group project, laboratory practical.	Project report, group project, coursework assignments, oral and poster presentation, lab report.
Select and apply appropriate computer-based methods for modelling and analysing engineering problems (C13, M13).	Computer laboratory practical, group research project, independent research project, design task.	Laboratory report, written assignment, work placement report, design report, group report, project report.
Evaluate customer and user needs taking into account the wider engineering context (C5, M5)	Design task, laboratory practical, simulation exercise, group project, work placement, independent project.	Problem solving exercise, simulation, project report, group report, lab report.
Create and design new processes or products to fulfil a specified requirement through synthesis of ideas from a wide range of sources (C5, M5, C6, M6).	As above.	As above.
Perform practical testing, technical analysis and critical evaluation of design ideas in laboratory or through simulation (C3, M3, C12, M12).	As above.	Laboratory examination, laboratory report, simulation report.
[MEng only] Select and critically evaluate technical literature and other sources of information to solve complex problems. (M4)	Tutorial, independent project, group project.	Independent project, group project, coursework assignment, oral and poster presentation

vi) Other discipline specific competencies

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion. (C11, M11)	Lecture, tutorial, independent research, group project, design task.	Coursework assignment, oral and poster presentation, group project, project report, design review and presentation, reflective report, job application exercise, final year project.
Select and use appropriate, experimental procedure, and measurement instrumentation (C12, M12, C13, M13).	Laboratory practical, group research project, independent research project.	Laboratory report, examination, project report, final year project.
Demonstrate knowledge and understanding of manufacturing and/or operational practice (C12, M12, C13, M13).	Manufacturing skills programme, work placement.	Laboratory report, practical demonstration, group report, written assignment, work placement report.
Apply understanding of codes of practice related to hazards and operational safety to ensure good working practices and effective risk management (C5, M5, C8, M8, C9, M9, C10, M10).	Laboratory practical, design task, independent research.	As above including final year project.
[BSc, DipHE, CertHE only] Demonstrate partial achievement of the full set of Engineering Council learning outcomes by meeting the University award criteria, whilst falling short of demonstrating the more stringent minimum requirements specified by the Engineering Council.	All teaching and learning methods detailed above.	Assessments common with BEng/MEng programmes but with failures in individual modules.

b) Transferable skills

i) Oral communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Present technical and business information orally, in an appropriate form for a given audience. (C17, M17)	Tutorial, group project, independent research, project supervision.	Oral presentation, portfolio, final year project.

ii) Written communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Communicate business and technical information in an appropriate written form for a given audience (C17, M17).	Lecture, group project, independent Research, project supervision.	Written assignment, laboratory report, essay, project report, group report,final year project.
Report on a practical or simulation test of a design solution including analysis and discussion of the results (C17, M17).	As above.	As above.

iii) Information technology

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Use standard and specialist engineering IT software confidently to conduct and report on engineering analysis and projects (C12, M12).	Lecture, group project, independent Research (final year project), project supervision.	Written assignment, laboratory report, essay, project report, group report.

iv) Numeracy

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Manipulate and sort data to generate new data sets (C2).	Problem-solving class, research project.	Computer-based exercise, written assignment, project report.
Manipulate and present data in alternative formats to create deeper understanding or greater impact (M2).	As above.	As above.

v) Team working

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Function effectively as an individual, and as a member or leader of a team (C16).	Tutorial, masterclass, project supervision, induction programme, group project.	Learning log/diary, learning portfolio, group report, reflective report.
[MEng only] Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance (M16).	Major design and research project.	Project report, design review and presentation, group report, reflective report.

vi) Problem solving

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Solve problems through the integration of knowledge of mathematics, science, information technology, design, business context and engineering practice (C1, M1).	Project supervision, lecture, tutorial, example sheet, simulation exercise, laboratory-based exercise, computer-based exercise, independent research project, group project.	Project report, oral and poster presentation, group reports, problem-based examination, practical demonstration.
Select and analyse appropriate evidence to solve non-routine problems (C2, M2).	As above.	As above.
Use systematic analysis and design methods to solve problems in unfamiliar situations (C3, M3).	As above.	As above.
Use creativity and innovation to solve problems (C5, M5).	As above.	As above.
Apply standard management techniques to plan and allocate resources to projects (C9, M9, C15, M15).	As above.	As above.

vii) Information handling

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Select and apply scientific evidence-based methods in the solution of problems (C1, M1, C4, M4).	Lecture, tutorial, example sheet, simulation exercise, laboratory-based exercise, computer-based exercise, independent research project, group project.	Project report, oral and poster presentation, group report, problem-based examination, practical demonstration.
Search for information related to design solution, evaluate it and suggest requirements for additional information (C4, M4).	As above.	As above.
Plan and manage the design process, including cost drivers and evaluate outcomes (C15, M15)	As above.	As above.
[MEng only] Work with limited, incomplete, or contradictory information (M2).	As above.	As above.

viii) Skills for lifelong learning

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Demonstrate knowledge and understanding of the professional and ethical conduct of an engineer and legal requirements (C8, M8)	Lecture, Independent research project, group research project, work placement.	Work placement report, project report, oral and poster presentation, group report.
Exercise initiative and personal responsibility, which may be as a team member or as a leader (C16, M16).	Masterclasses, learning portfolios, work placement, group project.	Learning portfolios, reflective report.
Learn independently and understand new concepts in the discipline readily (C18, M18).	Independent research project, group research project, work placement.	Work placement report, project report, learning logs/diary, learning portfolio.
Develop and implement personal plan of work to meet a deadline and identify the critical activities (C18, M18).	Independent research project, group research project, work placement.	Work placement report, project report, learning log/diary, learning portfolio.
Plan and record self-learning and development as the foundation for lifelong learning/CPD. (C18, M18)	Work placement, independent research project, group project.	Work placement report, project report, reflective report.
Explore career development opportunities (C18, M18).	Masterclass, learning portfolio, work placement.	Learning portfolio.
For the Year in industry variant only: On placement:		
Explain the process for applying for and securing a relevant placement	On placement: Students undertake a minimum of 9 months experience in the workplace.	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Construct effective applications for placement opportunities	Project supervision, independent research, work placement	Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis.
Recognise suitable plans for transitioning into a placement.	Project supervision, independent research, work placement	Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.
Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation.	On placement: Students undertake a minimum of 9 months experience in the workplace.	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome.
Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step.	Project supervision, independent research, work placement	Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis.
Modify your CV to include the skills and experience you have gained through your significant experience gained in the past 12 months.	Project supervision, independent research, work placement	Formative feedback during a Placement Visit (in person or via Teams) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.

10. Progression points

This programme follows the standard Scheme of Progression set out in Senate Regulations – see the version of Senate Regulation 5 governing undergraduate programmes relevant to the year of entry.

The following additional progression requirements for this programme have been approved:

- *For Foundation Year Variant:* Reference should be made to the Foundation Year Programme Specification from the year of entry.
- The following modules on these programmes are not eligible for compensation and must be passed at the relevant pass mark (40% at Levels 4-6, 50% at Level 7):
  > EG3005 - Individual Project
  > EG4007 - Fourth Year Project
  > EG4009 - Leadership and Project Management
- For MEng students, for progression from 2nd year to 3rd year a credit weighted average mark of 55% or more is required. Failure to progress will result in a change in programme from MEng to the equivalent BEng programme. Third year BEng students with a 2nd year credit-weighted average below 55% will not be permitted to transfer to an MEng programme during their 3rd year.

Progression and accreditation

• Where a student in year 1 meets the minimum University requirements for progression but fails to meet the additional external accreditation requirements the Board of Examiners will consider their academic profile. As standard students will be permitted to progress to year 2, but will be transferred to the non-accredited BSc equivalent degree programme and undertake any assessment from year 1 in line with the requirements of Senate Regulation 5.

Where a student wishes to retain the opportunity for accreditation they may request a repeat of the first year of the programme. The requirements for the repeat year will be as set out in Senate Regulation 5.80.

Reassessment in Years 1, 2 and 3

• Where, after re-assessment, a student has up to 15 credits that have been failed but can still meet the overall accreditation requirements after a further attempt, they will remain on the accredited route, proceed to the next year and re-sit the relevant assessments.

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course

a) Course transfers

Students who do not achieve the standard required for MEng, including those who have an average 2nd year mark of less than 55%, will be transferred to the BEng degree course

11. Criteria for award and classification

This programme follows the standard scheme of undergraduate award and classification set out in Senate Regulations – see the version of *Senate Regulation 5 governing undergraduate programmes* relevant to the year of entry.

The following additional award requirements for this programme have been approved as conditions of professional body accreditation:

- Major individual or group project modules and/or those covering AHEP4 learning outcomes that are not assessed in other modules are designated as being required to be passed at Honours level. The following modules on these programmes are not eligible for compensation and must be passed at the relevant pass mark (40% at Levels 4-6, 50% at Level 7):
  - EG3005 - Individual Project
  - EG4007 - Fourth Year Project
  - EG4009 - Leadership and Project Management

- The following modules include assessments which cannot be reassessed:

  - EG4007
  - EG4009

  See the relevant module specification for specific details.

- To qualify for an accredited degree award, the mark for each module assessment **must not be lower than 10% below the standard module pass mark** (40% for levels 4-6, 50% for level 7).

All assessments will therefore have a qualifying mark of 30.00% (levels 4, 5 and 6) or 40.00% (level 7) with the exception of those assessments listed below. Students who fail to meet this threshold in any of the assessment components may re-sit the component, provided re-sit opportunities are available, in accordance with the regulations on reassessment.

The following assessment components are exempt from this requirement:

EG1026 VLE Assignment
EG3125 Coursework
EG3313 Progress Tests
EG3422 VLE Tests
EG4227 Coursework Project 1
EG4422 Online Continuous Assessment

Students who fail to achieve this requirement, but otherwise meet the University progression requirements, will be transferred to the non-accredited version of the BEng degree (if they fail to meet the requirements on modules in levels 4-6) or MEng degree (if they fail to meet the requirements on modules in level 7).

- For accreditation purposes, the Engineering Council requires that finalists on accredited BEng and MEng programmes have **no more than 30 credits of 'compensated pass' across the programme as a whole.** If, after reassessment, a student does not achieve the requirements above but does meet the University's criteria for the award of a bachelor's degree, they will be awarded the non-accredited degree of BSc in Mechanical Engineering.
- For students on the final year of the MEng degree; if after reassessment they do not achieve the requirements above but do meet the University's criteria for the award of an integrated master's degree, they will be awarded the non-accredited degree of MSci in Mechanical Engineering. Such students may opt to be awarded the accredited BEng degree in place of the MSci.

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.

The four undergraduate degree streams of Aerospace, Mechanical, Electronic & Electrical and General are highly integrated. Students may switch between Aerospace, Mechanical and General programmes during their first year. This derives from the General Engineering ethos of the Department, ensures all engineering students benefit from a solid foundation in the fundamentals of all engineering disciplines. This feature is used to maximise opportunities for interdisciplinary working and integrated projects teams that are so important to modern professional engineering careers.

For students on the with Industry programme, it is the student's responsibility to secure a year in industry role. Employer led activities provide a platform for students to engage with organisations who are recruiting students for year in industry roles. When a Placement Student starts a year in industry, they will be required to complete health and safety documents and confirm they have completed a formal induction process no later than the 2nd week of placement.

12a. Research-inspired Education

Students on this programme will advance through the four quadrants of the University of Leicester Research-inspired Education Framework as follows:

RiE Quadrant	Narrative
	This engineering programme is built on four pillars of Research-inspired Education, ensuring that students develop both foundational knowledge and advanced research skills. This holistic approach integrates staff expertise, hands-on experience, and active research engagement into the curriculum, fostering critical thinking, creativity, and professional readiness.
Research-briefed Bringing staff research content into the curriculum.	**Research-briefed**: Academics actively incorporate their latest research findings and technological advancements into teaching and learning resources. This allows students to explore case studies, research papers, and cutting-edge developments, providing context and relevance by connecting theoretical engineering concepts to real-world applications and societal challenges.
Research-based Framed enquiry for exploring existing knowledge.	**Research-based**: Supported by academics, the students explore existing knowledge through several modules which involve problem-based learning, independent and group projects, and practical laboratories. These activities promote discovery and intellectual curiosity.
Research-oriented Students critique published research content and process.	**Research-oriented**: Facilitated by a series of training opportunities and assessments, students identify and critically evaluate published research findings and practices. This develops their ability to evaluate and contextualize information within their field and supplements their own experimental design, data analysis, and conclusion derivation.
Research-apprenticed Experiencing the research process and methods; building new knowledge.	**Research-apprenticed**: Under close mentorship of the academic members, the students engage with research-driven projects and practical coursework which are closely related to the ongoing research at the School of Engineering. They engage in all stages of a typical research project, including defining objectives, experimental design, data analysis, and presenting findings both orally and in written formats. This process is supported by structured training and weekly supervision meetings. This integration of research equips students with the skills and knowledge to excel in both academic and professional engineering environments.

As part of studying at a research-intensive university, students on this programme have the following extra or co-curricular opportunities available to them to gain exposure to research culture:

This programme provides various opportunities for students to engage with the ongoing research within the five distinct groups and contribute positively to the vibrant research culture at the School. For instance, students are invited to monthly seminars delivered by researchers and academics which increases their exposure to latest knowledge and provides networking opportunities. Guest lecturers from other institutes and industry are invited regularly to present

their solutions to real-world challenges. Moreover, individual and group projects, co-designed by students, are largely aligned with the ongoing research work by the academic supervisors at the School.

Teaching on this programme will be research-informed (it draws consciously on systematic inquiry into the teaching and learning process itself) in the following way:

The School supports all staff involved in teaching to gain an accredited Higher Education teaching qualification, in which they demonstrate their use of teaching theory to support their own practice and reflect on their current teaching and continuing professional development.

The good practices in research-informed teaching pedagogy are disseminated to module convenors through the School's teaching away day, peer observation of teaching, and via central email communications. Academics are encouraged to participate in the yearly teaching and learning conference held at the university. Curriculum delivery is routinely discussed in the Education Committee and meetings between education and programme directors.

13. Indications of programme quality

Normal University academic quality assurance processes are used to continuously review and improve the programmes. The last major review and re-structure of the programmes was during the Curriculum Transformation process, resulting in the current programmes structures being applied to students entering from academic year 2024/2025.

All of the current programmes are accredited by the appropriate professional engineering institutions (PEIs) 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).

Currently, accreditation of programmes within the School of Engineering are maintained through the Institution of Mechanical Engineers (IMechE), and the Institution of Engineering and Technology (IET). The School keeps the professional engineering institutions whom we seek accreditation from under review and the 5 yearly accreditation visits are key events in continuously improving the programmes and evolving them to meet the needs of future graduates and employers.

Revisions to the programme and module ILOs, and the introduction of new Engineering Council criteria for awarding accredited degrees were implemented in the latest revision of these programmes in response to the accreditation visit in May 2024.

14. External Examiner(s) reports

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at
https://uniofleicester.sharepoint.com/sites/university/exam-papers/SitePages/Exam-Papers.aspx
[log-in required]

UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate) FOR ENTRY YEAR: 2025/26

Date created: 07/04/2021 **Last amended:** 07/05/2026 **Version no.** 3

Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

BEng/ MEng Mechanical Engineering

Level 4/Year 1 2025/26

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	EG1007*	SUSTAINABLE ENGINEERING DESIGN	15 credits
Sem 1	EG1016 *	ENGINEERING MATHEMATICS WITH PROGRAMMING 1	15 credits
Sem 2	EG1026 *	ENGINEERING MATHEMATICS WITH PROGRAMMING 2	15 credits
Sem 1	EG1031*	SOLID MECHANICS	15 credits
Sem 2	EG1041*	FLUID MECHANICS	15 credits
Sem 2	EG1102*	THERMODYNAMICS AND HEAT TRANSFER	15 credits

Delivery period	Code	Title	Credits
Sem 1	EG1203*	PRINCIPLES OF ELECTRICAL ENGINEERING	15 credits
Year long	EG1122*	DIGITAL ELECTRONICS AND COMMUNICATIONS	15 credits

Notes

Modules marked with an asterisk are common to all engineering UG programmes

Level 5/Year 2 2026/27

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	60 credits	30 credits	30 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	EG2006*	INTEGRATED ENGINEERING DESIGN	15 credits
Year long	EG2302*	SYSTEM DYNAMICS AND CONTROL	15 credits
Sem 1	EG2008*	ENGINEERING MANAGEMENT	15 credits
Sem 1	EG2111	MATERIALS AND STRUCTURES	15 credits
Sem 1	EG2132	FLUID DYNAMICS AND AERODYNAMICS	15 credits
Sem 2	EG2113	DYNAMICS AND VIBRATIONS	15 credits
Sem 2	EG2121	MATERIALS PROCESSING	15 credits
Sem 2	EG2122	APPLIED ENGINEERING THERMODYNAMICS	15 credits

Notes
Modules marked with an asterisk are common to all Engineering UG programmes.

Level 6/Year 3 2027/28

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	30 credits
Optional	n/a	n/a	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	EG3005*	INDIVIDUAL PROJECT	30 credits
Sem 1	EG3111	FINITE ELEMENT ANALYSIS AND DESIGN	15 credits
Sem 1	EG3112	HEAT TRANSFER AND ENERGY SYSTEMS	15 credits
Sem 1	EG3313	STATE VARIABLE CONTROL	15 credits
Sem 2	EG3124	TRIBOLOGY IN ENGINEERING DESIGN	15 credits
Sem 2	EG3125	RIGID-BODY AND STRUCTURAL DYNAMICS	15 credits

Notes
Modules marked with an asterisk are common to all Engineering UG programmes.

Option modules

Delivery period	Code	Title	Credits
Semester 2	EG3213	MACHINE LEARNING FOR ENGINEERS	15 credits
Semester 2	EG3323	DIGITAL CONTROL AND ACTUATORS	15 credits

Delivery period	Code	Title	Credits
Semester 2	EG3422	AEROSPACE MATERIALS AND STRUCTURES	15 credits

Level 7/Year 4 2028/29

Credit breakdown

Status	Year long	Semester 1	Semester 2	Other
Core	n/a	45 credits	n/a	n/a
Optional	n/a	15 credits	60 credits	n/a

180 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	EG4007	GROUP PROJECT	30 credits
Year long	EG4009	LEADERSHIP AND PROJECT MANAGEMENT	15 credits

Option modules

Delivery period	Code	Title	Credits
Semester 1	EG4115	FLUID INSTABILITY, TRANSITION AND TURBULENCE	15 credits
Semester 1	EG4116	ADVANCED SOLID MECHANICS	15 credits
Semester 1	EG4313	ROTORCRAFT MECHANICS AND CONTROL	15 credits
Semester 1	EG4413	SPACECRAFT SYSTEMS ENGINEERING	15 credits
Semester 1	EG4430	FORENSIC ENGINEERING	15 credits
Semester 2	EG4125	COMPUTATIONAL FLUID DYNAMICS	15 credits
Semester 2	EG4126	ADVANCED COMPOSITE MATERIALS	15 credits

Delivery period	Code	Title	Credits
Semester 2	EG4323	ATTITUDE & ORBIT CONTROL SYSTEMS	15 credits
Semester 2	EG4324	SIGNAL PROCESSING	15 credits
Semester 2	EG4422	ADVANCED GAS TURBINES	15 credits

Notes
Choose 45 credits of optional modules in Semester 1 and 30 credits of optional modules in Semester 2

BEng/MEng degrees WITH 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.

BSc with Industry degrees may be awarded as an exit award if students have successfully completed the requirements of the with industry and the University's standard requirements for a Bachelor's degree but have not achieved the Engineering Council's award requirements for accredited engineering degrees codified in sections 10 and 11 above.

FIRST YEAR MODULES

As the first year of degree programme.

ADDITIONAL THIRD YEAR MODULES

Year in Industry

ADEG223	On Placement	0

FOURTH YEAR MODULES

As the third year of degree programme.

FIFTH YEAR MODULES (MEng with Industry only)

As the fourth year of degree programme.

BEng/MEng degrees WITH A YEAR ABROAD

FIRST AND SECOND YEAR MODULES

As for the first and second years of BEng Aerospace Engineering/ BEng Electronic and Electrical Engineering/ BEng General Engineering/ BEng Mechanical Engineering respectively.

THIRD YEAR MODULES (Year Abroad)

Students spend the third year taking approved modules at one of the 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 Engineering, BEng General Engineering 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 Engineering, MEng General Engineering etc.).

FOURTH YEAR MODULES

BEng: As 3rd year of the BEng Aerospace Engineering/ BEng Electronic and Electrical Engineering/ BEng General Engineering/ BEng Mechanical Engineering respectively.

MEng: As 3rd year of the MEng Aerospace Engineering/ MEng Electronic and Electrical Engineering/ MEng General Engineering/ MEng Mechanical Engineering respectively.

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

MEng: As 4th year of the MEng Aerospace Engineering/ MEng Electronic and Electrical Engineering/ MEng General Engineering/ MEng Mechanical Engineering respectively.

BSc with Year Abroad degrees may be awarded as an exit award if students have successfully completed the requirements of the Year Abroad and the University's standard requirements for a Bachelor's degree but have not achieved the Engineering Council's award requirements for accredited engineering degrees codified in sections 10 and 11 above.

Appendix 2: Module specifications

See undergraduate module specification database [login required] (Note - modules are organized by year of delivery).