Programme Specification (Postgraduate)

FOR ENTRY YEAR: 2026/27

Date created: 02/12/2024 **Last amended:** 12/06/2026 **Version no.** 2 **Date approved by EQED:**
Click or tap here to enter text.

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

MSc in Biomedical Engineering

MSc in Biomedical Engineering with Industry

Postgraduate Diploma (PGDip) in Biomedical Engineering*

Postgraduate Diploma (PGDip) in Biomedical Engineering with Industry*

Postgraduate Certificate (PGCert) in Biomedical Engineering*

Notes

* An award marked with an asterisk is only available as an exit award and is not available for students to register onto. These are all unaccredited.

a) HECOS Code

HECOS Code	%
100127	100

2. **Awarding body or institution:** University of Leicester

3. a) Mode of study Full-time

With Industry: The taught modules are taken in the first two semesters. This is followed by the industrial placement, which is taken following the end of the first-year exam period. This is followed by the in-house project for approximately 13 weeks.

b) Type of study Campus-based

With Industry: The Industrial placement is off campus, on the site of the Placement Provider.

4. Registration periods:

MSc in Biomedical Engineering (Full-time September Start)

The normal period of registration is 12 months.

The maximum period of registration 24 months.

MSc in Biomedical Engineering with Industry (Full-time September Start)

The normal period of registration is 24 months.

The maximum period of registration 36 months.

MSc in Biomedical Engineering (Full-time January Start)

The normal period of registration is 16 months.

The maximum period of registration 28 months.

MSc in Biomedical Engineering with Industry (Full-time January Start)

The normal period of registration is 28 months.

The maximum period of registration 40 months.

5. Typical entry requirements

The entry requirements will be based on the standard requirements applied to MSc courses in general at the University of Leicester. These are a first or 2:1 BEng honours degree, MEng or Master's degree in an Engineering discipline or a qualification recognised by the University of Leicester as equivalent. Graduates with a 2:2 or equivalent degree classification applying for the course will be considered on a case-by-case basis. The course is aimed at graduate students with degrees in Engineering and Technology or Physics programmes. Students with degrees in scientific disciplines (e.g. Mathematics, Chemistry, Biology, etc.) wishing to register for this course would need to be assessed on a case-by-case basis to determine if their background were suitable for the course and they possessed the requisite familiarity with engineering design and systems thinking. This will be done should the need arise and only if the necessary information cannot be obtained from the application form provided. The English language requirement for this programme will be in line with the existing MSc programmes in School of Engineering (IELTS 6.0).

6. Accreditation of Prior Learning

As the programmes will have an intake internationally, accreditation of previous degrees is not expected.

7. Programme aims

Our 1-year Master's programme in Biomedical Engineering aims to provide a comprehensive education in engineering technology combined with essential life sciences knowledge to enable you to build innovative healthcare technology and medical devices.

As a Master's student, you will work alongside researchers at the leading edge of biomedical engineering to solve key problems and barriers to innovative healthcare technology.

Our programme is industry informed and in the process of seeking double accreditation with the IET and IPEM. Our "with-industry" variant includes a 1 year placement in a MedTech/HealthTech company or hospital/clinic.

You will have the opportunity to explore human anatomy and physiology with biomedical engineering laboratories whilst learning about medical technology and rehabilitation devices and how innovators get these to market. You will specialise in system modelling and build expertise in bio-materials, wearable devices and prosthetics, covering machine learning algorithms for data analysis and biomechanics all of which are essential to building innovative healthcare. Elective modules focus on leading-edge technologies for biomedical engineers and you will get the opportunity to build a healthcare technology as an individual project and pursue required aspects of bringing it to market.

Graduates can pursue careers in fields of medicine and engineering that lie at the frontier of innovative healthcare, MedTech and HealthTech, such as designing wearable devices to diagnose and treat disease, engineering tissues to repair wounds, developing cutting-edge prosthetics, or develop AI algorithms for medical imaging.

For the aims, learning outcomes and special features of the Year in Industry, please see
https://le.ac.uk/study/postgraduates/courses/industry-2025-26

8. Reference points used to inform the programme specification

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- 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

UNIVERSITY OF LEICESTER

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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) Knowledge

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Apply core engineering and physical principles to address medical applications such as, prosthetics, medical devices, biomaterials, tissue engineering and regenerative medicine, some of which are at the forefront of the discipline. (MLAF A1)	Lectures, workshops, laboratory practicals, directed reading and independent research	Each module has three hours of weekly lecturing or workshop contact. Lecture material is supported during laboratory and practical sessions and additional resources provided for guided independent study. Cross-disciplinary group work and projects	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports (e.g. group projects, independent projects).
Students should be able to: Apply a 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 the particular subject of study and informed by a critical awareness of new developments and the wider context of engineering. (AHEP4 M1)	Lectures, workshops, laboratory practicals, directed reading and independent research	Each module has three hours of weekly lecturing or workshop contact. Lecture material is supported during laboratory and practical sessions and additional resources provided for guided independent study. Cross-disciplinary group work and projects	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports (e.g. group projects, independent projects).

Students should be able to: Relate the underlying principles of specialised medical equipment to its routine operation and its common quality assurance procedures. (MLAF A3)	Lectures, laboratories, workshops	Taught material is reinforced through practical analysis activities and relevant case studies	Presentations, problem-based exercises

ii) Concepts

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Critically evaluate existing and novel biomedical engineering concepts and practices, considering social and ethical implications, including safety principles, risk management, ethics and legislative requirements. (MLAF - A7)	Lectures, tutorials, seminars, independent research, projects, design activities, group work	Research inspired modules mean technical data and clinical and engineering literature is referred to throughout the degree programme. Literature review activities are set in a number of the core modules with outcomes presented in report or oral / poster presentation.	Problem-based exercises, reports, presentations. design tasks, group projects, independent projects.
Students should be able to: 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	Lectures, tutorials, seminars, independent research, projects, design activities, group work	Research inspired modules mean technical data and clinical and engineering literature is referred to throughout the degree programme. Literature review activities are set in a number of the core modules with outcomes presented in report or oral / poster presentation.	Problem-based exercises, reports, presentations. design tasks, group projects, independent projects.

practice and industry standards, (AHEP4 – M5)			

iii) Techniques

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Formulate innovative solutions for contemporary biomedical engineering challenges using a variety of experimental, analytical, design, statistical, mathematical and/or computational techniques to reach substantiated conclusions, accounting for accessibility, patient needs, limitations, risk and responsible technology development. (MLAF – A2)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises,
Students should be able to: 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,	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises,

discussing the limitations of the techniques employed. (AHEP4 – M2)			
Students should be able to: Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed (AHEP - M3)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises,

iv) Critical Analysis

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Critically evaluate existing and novel biomedical engineering concepts and practices, considering social and ethical implications, including safety principles, risk management, ethics and legislative requirements. (MLAF – A7)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises,
Students should be able to: Critically evaluate experimental findings against previous measurements and/or the scientific/technical literature, in terms of statistical significance and research methodology. (MLAF – A10)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises,
Students should be able to: Select and critically evaluate technical literature and other sources of information to solve complex problems (AHEP4 – M4)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes. Independent project work.	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports.

v) Presentation

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type

Students should be able to: Present research findings clearly, addressing limitations and future directions. Communicate scientific concepts to an audience of his/her peers in a concise, accurate and informative manner, leading to the presentation of logical conclusions and evaluation at a level appropriate to the audience. (MLAF – A8)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)
Students should be able to: Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used. (AHEP4 – M17)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

vi) Appraisal of evidence

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Apply quality and risk management principles to ensure accuracy, precision, legislative and regulatory compliance governing best practice in biomedical engineering. (MLAF – A4)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes. Independent project work.	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports.

Students should be able to: 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. (AHEP4- M7)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes. Independent project work.	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports.

b) Transferable Skills

i) Research Skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Conduct and manage an independent research project encompassing problem definition, critical technical literature review, methodology design, data collection, analysis, and interpretation. Evaluate the environmental and societal impact of proposed solutions and minimise adverse impacts. (MLAF – A6)	Lectures, group projects, independent research, project supervision	Taught content applied through design tasks and research projects	Written assignments, laboratory reports, independent project reports.

ii) Communication skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects	Reports, projects, presentations (oral and poster)

Present research findings clearly, addressing limitations and future directions. Communicate scientific concepts to an audience of his/her peers in a concise, accurate and informative manner, leading to the presentation of logical conclusions and evaluation at a level appropriate to the audience. (MLAF – A8)		and analysis of clinically relevant data, cross-disciplinary group work supports communication development	
Students should be able to: Communicate effectively on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used. (AHEP4 – M17)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

iii) Data Presentation

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Apply a range of advanced ICT skills to relevant scientific tasks in biomedical engineering, including biomedical signal acquisition, analysis, and interpretation and diagnostic methods from computational biology through to biomedical imaging, AI and bio-signal processing. (MLAF – A5)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

Students should be able to: 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. (AHEP4 – M2)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

iv) Information Technology

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Apply a range of advanced ICT skills to relevant scientific tasks in biomedical engineering, including biomedical signal acquisition, analysis, and interpretation and diagnostic methods from computational biology through to biomedical imaging, AI and bio-signal processing. (MLAF – A5)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

v) Problem Solving

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type

Students should be able to: Formulate innovative solutions for contemporary biomedical engineering challenges using a variety of experimental, analytical, design, statistical, mathematical and/or computational techniques to reach substantiated conclusions, accounting for accessibility, patient needs, limitations, risk and responsible technology development. (MLAF – A2)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes. Independent project work.	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports.
Students should be able to: Select and critically evaluate technical literature and other sources of information to solve complex problems. (AHEP4 – M4)	Lectures, tutorials, seminars, laboratory practicals, directed reading, independent research, resource-based learning	Lecture material is supported during laboratories and computer classes. Independent project work.	Examinations (both open-book and closed-book), laboratory reports, presentations, problem-based exercises, simulation exercises, project reports.

vi) Working relationships

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate professional attributes, engineering and management skills to achieve full potential as an individual or a member of a team, regardless of background. Manage his/her own learning and make selective use of a variety of resources including appropriate texts, research articles	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

and other primary sources in their work. Evaluate effectiveness of own and team performance. (MLAF – A9)			
Students should be able to: Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance. (AHEP4 – M16)	Seminars, workshops, project supervision	Taught content applied through design tasks and research projects and analysis of clinically relevant data, cross-disciplinary group work supports communication development	Reports, projects, presentations (oral and poster)

vii) Managing learning

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate professional attributes, engineering and management skills to achieve full potential as an individual or a member of a team, regardless of background. Manage his/her own learning and make selective use of a variety of resources including appropriate texts, research articles and other primary sources in their work. Evaluate effectiveness of own and team performance. (MLAF – A9)	Lectures, project supervision Independent research projects, group research projects,	Technical, design and analytical based individual and group projects	Independent project reports, meeting logs.

viii) Career Management

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type

Students should be able to: Demonstrate professional attributes, engineering and management skills to achieve full potential as an individual or a member of a team, regardless of background. Manage his/her own learning and make selective use of a variety of resources including appropriate texts, research articles and other primary sources in their work. Evaluate effectiveness of own and team performance. (MLAF – A9)	Lectures, project supervision Independent research projects, group research projects,	Technical, design and analytical based individual and group projects	Independent project reports, meeting logs.

10. Progression points

As defined in Senate Regulation 6: Regulations governing taught postgraduate programmes of study.

Any student not meeting the criteria to progress to the industry placement will typically revert to the non-industry variant of the degree programme and undertake any re-sits as determined by a Board of Examiners in line with Senate Regulations.

The Board of Examiners may use its discretion when considering modules failed with accepted mitigating circumstances.
For further details on the progression requirements of the "with industry" variant of the programme please see: https://le.ac.uk/study/postgraduates/courses/industry-2025-26.

In the event that a Placement Student is moved to the standard campus-based programme, the Placement Provider will be notified immediately. For overseas students, UKVI will also be informed immediately. Placement Providers will be made aware that any contract of employment shall be made subject to satisfactory completion of the taught part of the programme.

In cases where a student has failed to meet a requirement to progress, he or she will be required to withdraw from the course and a recommendation will be made to the Board of Examiners for an intermediate/exit award where appropriate.

a) Course transfers

n/a

b) Year in Industry

For the Year in Industry variant the additional progression points apply

11. Criteria for award and classification

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

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

- The following additional award requirements for this programme need to be approved for AHEP4 accreditation:
- Definitions: Condonement - the practice of allowing students to fail one or more modules within a degree programme yet still qualify for the award of the degree. Compensation - the practice of allowing marginal failure of one or more modules, often on the basis of good overall academic performance.
- Condonement: All modules must be passed or receive a compensated pass in order for a student to graduate with the named degree award. Compensation down to zero will be viewed as a condonement. Thus condonement is not acceptable.

- Compensation: This programme follows the Scheme of Assessment for Master degree programmes, comprising 120 credits of taught modules and a 60-credit project. In accordance with Engineering Council requirements for accreditation, a variation applies whereby **a maximum of 15 credits** may be considered as a "Compensated Pass" for modules with marks between 40% and 49.99%, provided that no other modules are failed (mark between 0% and 39.99%). In addition, the Taught Credit Weighted Average must be 50.00% or above in line with Senate Regulation 6. Students who do not meet this criterion will be considered for an interim award based on the taught component of the programme.
- Students who do not meet these criteria will be permitted one further attempt to resit any failed modules for which they have remaining attempts. Beyond this, students who fail to meet these criteria will be considered for an interim award based on the taught component of the programme. A student who successfully completes an industry placement but does not meet the award requirements for an MSc may be considered for the exit awards Postgraduate Diploma (PGDip) in Biomedical Engineering, Postgraduate Diploma (PGDip) in Biomedical Engineering with Industry, or Postgraduate Certificate (PGCert) in Biomedical Engineering, though these do not meet the accreditation requirements for Chartered Engineer status (with Further Learning).
- Finally, IPEM stipulates also states that condonement is not permitted, and again that up to 20 credits, excluding major individual and group project work, may be compensated within MLAF-accredited programmes.
- The definitive policy on Engineering Council condonement and compensation is here https://www.engc.org.uk/compensation

12. Special features

The University recognises that undertaking a work placement as part the programme of study can enhance career prospects and provide added value, and as such this programme includes a 'with industry' variant.

By experiencing real-world scenarios and applying skills and knowledge to a professional environment, students can gain a unique insight into how their studies can be utilised in industry. This will not only showcase their abilities to future employers but will also enhance their studies upon returning to university to complete your programme.

To understand the special features for 'with industry' postgraduate programme variants, this programme specification should be read in conjunction with the programme specification content which can be found here. This outlines details including programme aims, support, progression and duration.

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
Research-briefed Bringing staff research content into the curriculum.	Linking our programmes directly to the Biomedical Engineering Research Group (BERG) research activities creates exciting opportunities for degree content at the cutting edge of biomedical engineering research with a core focus on high-level global priorities in healthcare. **Research-briefed** The curriculum incorporates cutting-edge research content from BERG. Core modules like "Healthcare Technology in Medicine" and "Advanced Biomedical Signal Processing" integrate the latest research findings and methodologies, exposing students to current innovations in the field. Faculty members, who are

	active researchers, bring their expertise directly into the classroom, ensuring students engage with the most recent developments in biomedical engineering.
Research-based Framed enquiry for exploring existing knowledge.	**Research-based** Students engage in framed enquiry to explore existing knowledge throughout the programme. The "Quantitative Research Methodology" module challenges students to critically evaluate research designs and methodologies used in scientific literature, particularly those related to medical device innovation. This approach encourages students to analyse and synthesize existing research, developing their ability to frame and investigate complex biomedical engineering problems.
Research-oriented Students critique published research content and process.	**Research-oriented** The programme emphasizes critiquing published research content and processes. In modules like "Life Sciences for Bioengineers" and "Tissue Engineering and Regenerative Medicine," students are required to analyse recent technological developments and evaluate their potential impact on healthcare. This critical approach helps students develop analytical skills essential for understanding and contributing to the research process in biomedical engineering.
Research-apprenticed Experiencing the research process and methods; building new knowledge.	**Research-apprenticed** The "Individual Biomedical Engineering Project" provides students with a research apprenticeship experience. Students apply knowledge from throughout the course to devise innovative solutions to engineering problems at a professional level. They collect and analyse research data, use appropriate engineering tools to tackle scenarios with uncertain or incomplete data, and communicate outcomes through reports and oral presentations. This hands-on experience allows students to build new knowledge while experiencing the full research process, from proposal to execution and dissemination.

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:

Students on this programme will gain exposure to research culture via the following ways:

* **Biomedical Engineering site visits:** Opportunities within reasonable distance of UoL: UHL sites; Charnwood Life Sciences campus, Loughborough; Medical Technology Innovation Facility (MTIF), Nottingham; National Rehabilitation Centre (NRC) Stamford Hall; Smith and Nephew, Watford; CMR Surgical Robotics, Cambridge and Rosalind Franklin Institute, Didcot.
* **Regular Biomedical Engineering Seminars:** Biomedical Engineering Research Group (BERG) within the School of Engineering has an active bimonthly research seminar series
* **Engagement with Medical School and local hospitals:** Many modules include use of facilities within the Medical School (e.g. Simulation Laboratory) and School of Healthcare (e.g. Physiotherapy, Radiology facilities) and UHL (Radiography facilities) that provide opportunities for projects and engagement outside of core modules.
*** Student engagement with PEIs:** IET currently accredits many of our other engineering programmes. And they do have regular campus visits and engagement with our students. IPEM additionally, will be asked to accredit our PGT biomedical engineering programmes, and the students would be encouraged to take up membership with these institutes.
* **Linking projects to real-world clinical need:** Projects will all be linked to real-world MedTech/HealthTech domain

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 curriculum is developed and delivered by active researchers in the BERG, ensuring that cutting-edge research directly informs module content and teaching methods. Core modules like "Healthcare Technology in Medicine" and "Advanced Biomedical Signal Processing" incorporate the latest research findings and methodologies, exposing students to current innovations in the field. Throughout the programme, teaching methods are continuously evaluated and refined based on educational research, incorporating evidence-based practices such as problem-based learning, flipped classrooms, and peer instruction. It not only enhances students' subject knowledge but also develops their critical thinking and research skills, preparing them for the rapidly evolving field of biomedical engineering. The modules allow students to broaden their knowledge in several areas that meet their interests, whilst nurturing interdisciplinary mindsets and problem-solving skills. The optional modules, available in a variety of specialisms, are continually updated the reflect the latest trends in Biomedical Engineering and research specialities of academic staff. 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.

13. Indications of programme quality

Normal School and University academic quality assurance processes are used to continuously review and improve the programmes.

Other degree programmes within the School of Engineering are accredited by the appropriate professional engineering institutions (PEIs), through the Institution of Mechanical Engineers (IMechE) and Institution of Engineering and Technology (IET), this leads to an advantage when applying for professional registration as a Chartered Engineer (CEng). Further learning following graduation is required to obtain CEng with an MSc degree.

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.

This programme is pending approval for CEng (with Further Learning) accreditation by The Institution of Engineering and Technology (IET) and Institute for Physics and Engineering in Medicine (IPEM). Formal accreditation can only be granted after an accreditation visit and approval from the IET/IPEM's Academic Accreditation Committee. If accreditation is granted this may be backdated to the 2026 intake.

For the Year Industry variant the additional indications of programme quality apply

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 exampapers@Leicester [log-in required].

UNIVERSITY OF LEICESTER

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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.

MSc in Biomedical Engineering

Level 7 Delivery Year 2026/27 Intake Month September Mode of Study Full Time Structure

Credit breakdown

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

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Semester 1	EG7161	Advanced Biomedical Signal Processing	15 credits
Semester 1	EG7166	Life Sciences for Bioengineers	15 credits
Semester 1	EG7312	Systems Engineering	15 credits
Semester 1	EG7227	Artificial Intelligence Architectures	15 credits
Semester 2	EG7165	Quantitative Research Methodology	15 credits
Semester 2	EG7167	Healthcare Technology in Medicine	15 credits

Delivery period	Code	Title	Credits
Term 3	EG7168	Individual Biomedical Engineering Project	60 credits

Notes
n/a

Option modules

Delivery period	Code	Title	Credits
Semester 2	EG7162	Neuromuscular Control and Rehabilitation	15 credits
Semester 2	EG7163	Tissue Engineering and Regenerative Medicine	15 credits
Semester 2	EG7164	Advanced Characterisation Techniques	15 credits

Notes
This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 2 (for students on the with Industry variant)

Core modules

Delivery period	Code	Title	Credits
Summer	EG7168	Individual Biomedical Engineering Project	60 credits
	ADEG7223	On Placement*	

The ”with industry” programme includes an industrial placement following the end of the final exam period of the taught phase of the programme, with students returning to UoL to complete the project after their placement.

Level 7/Year 1 Delivery Year 2026/27 Intake Month January Mode of Study Full Time Structure

Credit breakdown

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

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Semester 2	EG7165	Quantitative Research Methodology	15 credits
Semester 2	EG7167	Healthcare Technology in Medicine	15 credits

Notes
n/a

Option modules

Delivery period	Code	Title	Credits
Semester 2	EG7162	Neuromuscular Control and Rehabilitation	15 credits
Semester 2	EG7163	Tissue Engineering and Regenerative Medicine	15 credits
Semester 2	EG7164	Advanced Characterisation Techniques	15 credits

Notes
This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 2 Delivery Year 2027/28

Core modules

Delivery period	Code	Title	Credits
Semester 1	EG7161	Advanced Biomedical Signal Processing	15 credits
Semester 1	EG7166	Life Sciences for Bioengineers	15 credits
Semester 1	EG7312	Systems Engineering	15 credits
Semester 1	EG7227	Artificial Intelligence Architectures	15 credits
Semester 2	EG7168	Individual Biomedical Engineering Project	60 credits

Notes

n/a

Level 7/Year 2 (for students on the with Industry variant)

Core modules

Delivery period	Code	Title	Credits
Semester 2	EG7168	Individual Biomedical Engineering Project	60 credits
	ADEG7223	On Placement*	

The ”with industry” programme includes an industrial placement following the end of the final exam period of the taught phase of the programme, with students returning to UoL to complete the project after their placement.

UNIVERSITY OF LEICESTER

Programme Specification (Postgraduate)

FOR ENTRY YEAR: 2026/27

Date created: 02/12/2024 **Last amended:** 12/06/2026 **Version no.** 2 **Date approved by EQED:**
Click or tap here to enter text.

Appendix 2: Module specifications

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