Programme Specification

A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

1	**Programme Title**	Biomedical Engineering with an Industrial Placement Year
2	**Programme Code**	BIEU21
3	**JACS Code**	H160
4	**Level of Study**	Undergraduate
5a	**Final Qualification**	Master of Engineering (MEng)
5b	**QAA FHEQ Level**	Masters
6a	**Intermediate Qualification(s)**	Bachelor of Engineering (BEng) for MEng students transferring their registration in Years 1 and 2 (see separate programme specification for BIEU22)
6b	**QAA FHEQ Level**	Honours
7	**Teaching Institution** (if not Sheffield)	Not applicable
8	**Faculty**	Engineering
9	**Department**	Interdisciplinary Programmes
10	**Other Departments involved in teaching the programme**	Automatic Control and Systems Engineering Cardiovascular Science Chemical and Biological Engineering Computer Science Electronic and Electrical Engineering Management Materials Science and Engineering Mathematics and Statistics Mechanical Engineering School of Clinical Dentistry
11	**Mode(s) of Attendance**	Full-time
12	**Duration of the Programme**	5 years (including a year in industry)
13	**Accrediting Professional or Statutory Body**	Institution of Engineering and Technology (IET) Institute of Physics and Engineering in Medicine (IPEM)
14	**Date of production/revision**	June 2023

15. Background to the programme and subject area

Bioengineering (or biomedical engineering) is defined as the application of engineering principles and techniques to help prevent and diagnose disease and rehabilitate patients more quickly. Bioengineers address the challenges of an increasingly ageing population, seeking to achieve a better quality of life through the development of innovative devices, implants and processes for medical care.

Students on the MEng in Biomedical Engineering with a Year in Industry spend the fourth year working in a company of their choice in the bioengineering sector. This provides them with wide-ranging experiences and opportunities to put their academic studies into context, and to improve their technical and professional skills. It enhances their employment prospects, enabling them to gain direct experience of industry culture, make contacts and strengthen their CV. Students who complete their placement successfully can often fast-track to employment within the same company.

Biomedical Engineering at Sheffield draws on the expertise of nine departments in the Faculties of Engineering, Science and Medicine, plus the University's Management School. A distinctive feature of our degrees is that at the same time as providing a breadth of knowledge, students can tailor their studies to suit their individual interests and career aspirations. Our five-year MEng Biomedical Engineering with a Year in Industry degree offers the opportunity to specialise in a two-step process in one of two broad pathways which are then further

subdivided leading to four final streams. These 4 streams are as follows:

Pathway A

- Stream 1: Biomedical Engineering (BME) – the advancement of knowledge in engineering, biology and medicine to enhance human health.
- Stream 2; Medical Devices and Systems (MDS) – the development of novel medical devices and the improvement of clinical engineering systems, including measurement and communication systems, medical sensors, imaging systems and data processing.

Pathway B

- Stream 3: Biomanufacturing (BMan) – the interface between engineering design principles and biological processes, utilising genes, proteins and living cells in a range of manufacturing processes and moving towards more sustainable, green technologies.
- Stream 4: Biomaterials Science and Tissue Engineering (BSTE) – the application of engineering principles for the design of biocompatible materials for the repair and replacement of diseased and damaged body parts.

Initial specialisation begins at the start of year 2 when students choose between the two broad pathways. At the end of year 2 a further refinement in choice is made, when the students select between the two streams within their chosen pathway.

- Students then continue their chosen stream in year 5.

Irrespective of which specialism a student chooses, they learn to apply engineering principles and to develop an open, constructive and integrative approach to complex biological problems. In addition to the year-long placement, there are opportunities throughout the degree to participate in industrial seminars, and to undertake research into real-life healthcare challenges through a Group Design Project. All students undertake an individual research project in their final year. These experiences provide insights into how advances in bioengineering are implemented and how financial and social factors influence their development. Our students graduate equipped with the knowledge and skills they need to meet the challenges of working within this innovative and cross-disciplinary sector and to succeed in their chosen career.

16. Programme aims

The University's mission is to provide students from a wide variety of educational and social backgrounds with high quality education in a research-led environment, delivered by staff working at the frontiers of academic enquiry. Biomedical Engineering with a Year in Industry at Sheffield implements this through its strong commitment to both teaching and research. It also aims to engender in students a commitment to future self-learning and social responsibility.

The overall aim of the degree is to admit intelligent and motivated students and, in a research-led environment, to create graduates who will become the future leaders and innovators in the engineering and healthcare economy by:

1. providing teaching that is informed and invigorated by the research and scholarship of its staff and alert to the benefits of student-centred learning;
2. providing broad-based training in engineering principles applied to human biology;
3. providing a comprehensive knowledge and understanding of engineering, materials science, human anatomy, and physiology, together with a more detailed and critical understanding in a selected area of bioengineering;
4. developing independence of thought, intellectual curiosity, ethical awareness and the business and management skills necessary for a professional engineer in bioengineering or a related field;
5. developing an extensive and diverse range of subject-specific and generic skills appropriate to graduate employment both within and outside bioengineering;
6. enabling students to maximise their potential in all aspects of their degree and imparting in students a commitment to life-long learning;
7. providing students with direct experience of working in an engineering company;
8. satisfying the academic and practical requirements for the award of Chartered Engineer status by aiming to meet the latest accreditation requirements of the Engineering Council Accreditation of Higher Education Programmes (AHEP) in engineering, the IET and IPEM.

17. Programme learning outcomes

Knowledge and understanding:	
By graduation students will have:	
K1	a comprehensive knowledge and understanding of the diverse range of engineering principles and skills that are employed in bioengineering, and how these are applied together to solve healthcare problems.
K2	a comprehensive knowledge and understanding of the mathematics necessary to apply engineering science to bioengineering.
K3	a sound knowledge and understanding of human anatomy, physiology and basic cellular biology.
K4	advanced knowledge and critical understanding in a selected area of bioengineering.
K5	a wide knowledge and understanding of the regulatory, social, ethical, legal and financial issues relevant to a professional bioengineer.
K6	an understanding of the analytical and design methods used in bioengineering.
K7	a broad knowledge and understanding of management techniques and the different roles in a team and the application of these in a bioengineering context.
K8	an understanding of the use of information technology for analysis, design and management.
K9	a broad knowledge and understanding of the processes involved in the design and costing of novel research and development programmes.
K10	experience of working as a professional bioengineer.
K11	an appreciation of how the subject-specific knowledge gained during the degree applies in the workplace.

Skills and other attributes:	
By graduation students will be able to:	
S1	use knowledge from engineering, human biology, mathematics and information technology to analyse and solve both familiar and unfamiliar problems in human healthcare.
S2	demonstrate skills in the acquisition, use and critical evaluation of experimental and other subject-related data.
S3	design and undertake experimental and literature-based projects, both individually and in a collaborative team, taking account of technical, social, ethical, legal and commercial considerations.
S4	display creativity and innovation in solving unfamiliar problems.
S5	exercise independent thought and judgement.
S6	synthesise, interpret and communicate information from a diverse range of engineering and biological disciplines effectively.
S7	design and conduct protocol-based experimental investigations and analyse and report the results.
S8	critically evaluate experimental design for a range of engineering disciplines.
S9	prepare technical reports and presentations and convey essential aspects of bioengineering using a variety of media.
S10	use appropriate computer aids for analysis and design in order to solve bioengineering problems and be aware of their limitations.
S11	develop a design-and-build proposal for a bioengineering project, from initial concept to built prototype.
S12	demonstrate that they have completed the practical engineering applications necessary for a Chartered Engineer.
S13	use information technology effectively.
S14	communicate at a professional level to an interdisciplinary audience, orally, in writing and through visual presentations.
S15	work in collaboration with others to produce a significant engineering outcome.
S16	manage both group projects and their own time effectively.

S17	find information and learn independently.
S18	appreciate how a bioengineering company operates.

18. Teaching, learning and assessment

Development of the learning outcomes is promoted through the following teaching and learning methods:

Lectures: The principal means of transmitting academic material and analysis techniques. Most lecture courses provide tutorial sheets to enable students to develop their understanding of the subject matter and methods during their private study.

Laboratory Classes: These introduce experimental methods, develop analytical and reporting skills and provide a good opportunity for enhancing skills in team working and communication.

Coursework Assignments, Oral and Poster Presentations: Several modules have coursework assignments that require students to seek additional information and work either on their own, or in small groups. They are designed to enable students to develop and show their understanding of the content of the module. Oral and poster presentations are included as part of some coursework assignments to provide opportunities for developing essential presentation and communication skills.

Tutorials and Example Classes: These may be small group or up to class sized tutorials and are a main source of providing help to students to embed learning, develop understanding, obtain feedback and resolve problems in their understanding of course material.

Design Classes: These enable students to work on 'open-ended' and often loosely-defined problems related to real engineering situations. They also provide good opportunities for developing team-working and communication skills as well as individual skills.

Industrial and research seminars – seminars led by visiting industrialists, hospital and research academic staff take place throughout the degree. They enable students to develop their understanding of the industrial application of concepts they are learning in class, and of the role and responsibilities of a professional bioengineer.

Group Research Project: This is undertaken in Year 3 and involves groups of typically 5-6 students working on the development of a fully planned design-and-build proposal for a bioengineering project. It enables students to apply the academic and technical knowledge and skills acquired during the first two years of the degree, and to gain insights into the regulatory, social, ethical, legal and commercial factors affecting project development in industry and academia. It also develops project management, time management, budget management, creative and critical thinking, team-working and communication skills.

Individual Industrial Placement: Year 4 is spent in industry. This provides students with experience of working in an engineering or healthcare-related company, consolidates the knowledge gained during their academic studies in Years1 to 3, and enhances their understanding of how to apply this in practice.

Individual Investigative Project: This is undertaken in Year 5. It is an individual research and/or industrial project at the frontiers of bioengineering. It is completed under the supervision of a member of academic staff and provides an excellent opportunity for a student to pull together every aspect of their development during the degree.

Opportunities to demonstrate achievement of the learning outcomes are provided through the following assessment methods:

Written Examinations: These are typically 2 hours in duration; many modules use this as the only or major assessment method.

Coursework Assignments, Oral and Poster Presentations: Coursework assignments are widely used in design studies, computational exercises, laboratory reports, essays or other work designed to assess the understanding of the module. Assignments are mainly undertaken on an individual basis but are sometimes carried out in small groups. Some assignments use oral and poster presentations in order to assess the development of presentation and communication skills. Some modules use coursework assignments as the only or main method of assessment whilst others have this as a minor part with a written examination forming the major part of the overall assessment.

Class Tests: These are small tests conducted during the main teaching periods to assess progress and understanding; they supplement more formal examinations and may take the form of online exercises or quizzes completed before and/or during a lecture, laboratory class or tutorial/example class.

Group Project: This is assessed 50:50 through individual and group submissions. The individual submissions include a) an interim essay, b) a personal reflection and c) peer/group evaluations. The group submissions comprise of a) an oral presentation, b) a system demonstration and pitch and c) a portfolio of work related to the design and build process and use of the system that has been produced. The project is expected to be at a professional level.

Individual Industrial Placement: Two methods are used to assess the placement undertaken in Year 4. The student must write a 3000-word report, and give a presentation to academic staff at the end of the placement.

Individual Investigative Project: This is the final and largest individual project on the degree, undertaken in Year 5. The project is assessed on the student's commitment and progress throughout the project, a written report, an oral and poster presentation to a panel of staff and the response to questions from the panel. The project is expected to be at a professional level.

The main teaching, learning and assessment methods adopted for each learning outcome are shown below. In most cases a combination of methods is used.

	TEACHING / LEARNING										ASSESSMENT					
LEARNING OUTCOME (abbreviated – see Section 17 for full text) Items shown thus (·) are included depending on the nature of the project	Lectures	Laboratory classes	Coursework assignments, oral and poster presentations	Tutorials / examples classes	Design classes	Industrial / research seminars	Group project	Individual industrial placement	Individual project		Written examinations	Coursework assignments, oral and poster presentations	Class tests	Group project	Individual industrial placement	
K1 Broad understanding	·	·	·	·	·	·	·		·		·	·	·	·		
K2 Mathematics	·	·		·			·		(·)		·	·		·		
K3 Anatomy, Physiology, Biology	·	·	·	·					(·)		·	·	·			
K4 Critical knowledge	·		·	·		·	·		·		·	·		·		

K5 Professional responsibility	·		·	·		·	·		(·)		·	·		·		(·)
K6 Analytical/design methods	·	·	·	·	·		·		(·)		·	·		·		(·)
K7 Management techniques	·		·	·		·	·		(·)		·	·		·		(·)
K8 Information Technology	·	·	·	·	·		·		(·)		·	·	·	·		(·)
K9 Research & development	·	·	·	·	·	·	·		(·)			·		·		(·)
K10 Industrial experience								·				·			·	
K11 Workplace application								·				·			·	
S1 Analyse problems	·	·	·	·	·		·		·		·	·	·	·		·
S2 Acquire/evaluate data	·	·	·	·	·		·		·			·		·		·
S3 Design/undertake projects	·	·	·	·	·		·		·			·		·		·
S4 Display creativity/innovation		·	·		·		·		·			·		·		·
S5 Exercise independent thought		·	·	·	·		·		·		·	·		·		·
S6 Synthesise information			·	·			·		·			·		·		·
S7 Conduct experiments		·					·		(·)			·				(·)
S8 Evaluate experimental design		·		·			·		(·)			·		·		(·)
S9 Prepare technical reports	·	·	·	·			·		·			·		·		·
S10 Use computer programmes	·	·	·				·		(·)			·		·		(·)
S11 Develop research proposals		·					·		·			·		·		·
S12 Engineering applications	·	·	·		·		·					·	·			
S13 Use IT effectively	·	·	·	·	·		·		·			·	·	·		·
S14 Communicate effectively		·	·	·	·		·		·		·	·	·	·		·
S15 Work collaboratively		·	·	·	·		·					·		·		
S16 Manage time effectively	·	·	·	·			·		·			·		·		·
S17 Learn independently			·				·		·			·		·		·
S18 Appreciation of industry								·				·			·	

Proportions of types of assessment by level can be found on the UniStats website: http://discoveruni.gov.uk/

19. Reference points

The learning outcomes have been developed to reflect the following points of reference:

Subject Benchmark Statement (Engineering 2019) https://www.qaa.ac.uk/en/quality-code/subject-benchmark-statements

UK Quality Code for Higher Education2018
https://www.qaa.ac.uk/quality-code#

The University's plan for the future
http://www.sheffield.ac.uk/strategicplan

The University's Education Pillar (2020-25)
https://www.sheffield.ac.uk/vision/our-pillars/education

Annex to Academic Standards – Engineering: Annex B4 MEng degrees, Quality Assurance Agency for Higher Education.

The Accreditation of Higher Education Programmes: UK Standard for Professional Engineering Competence, Engineering Council, third edition
http://www.engc.org.uk/standards-guidance/standards/accreditation-of-higher-education-programmes-ahep/

Feedback from the External Examiner and industrial members on the Bioengineering Industrial Advisory Board

Requirements of the professional bodies accrediting our programmes: the IET, IPEM

The University of Sheffield Placement Learning Guidelines and Organizer Checklist.
http://www.shef.ac.uk/lets/pp/support/placement

In assessing the learning outcomes, the level of performance, e.g. the extent of knowledge and depth of understanding, will be compliant with guidance given in the above references.

20. Programme structure and regulations

The degree structure is modular. At each level students study modules worth a total of 120 credits. Most modules are worth 10 or 20 credits with one 60 credit module in the final year. During the first two years, the syllabus for all the MEng and BEng Biomedical Engineering degrees is the same.

In Year 1, all modules are core (compulsory). The 'Introduction to Bioengineering' module, in semester 1, introduces students to the application of engineering principles to biological and medical problems, and fosters an appreciation of the breadth of bioengineering and the knowledge areas and skills that are needed to contribute to the development of this fast-growing field. It also provides them with training in MATLAB, and how to apply this to solve bioengineering problems. Students also participate in a compulsory week-long 'Global Engineering Challenge'. Based on the Engineers without Borders Challenge (a national competition for engineering undergraduates), this gives all first-year engineering students at the University the opportunity to work together in teams to tackle a real-world problem with a global perspective. Formal credits are not awarded for participation in the Challenge Week; however, it is vital for developing the technical competence, understanding of global context and the professional skills that are the hallmark of an excellent engineer. At the end of Year 1, students choose between two broad pathways and then further refine their specialism choice at the end of year 2– and they follow their chosen elective for the remainder of the degree.

In Year 2, three credits worth 40 credits are taken by all students, while the remaining modules are specific to their chosen pathway. One of the core modules, 'Advanced Bioengineering Topics' follows on from the 'Introduction to Bioengineering' module taken in Year 1. This enables students to develop more in-depth knowledge in bioengineering across all specialisms. It also includes statistics training with a focus on using statistics in a bioengineering context. Students also take part in a compulsory week-long project called 'Engineering – You're Hired'. Working again with students from other engineering disciplines, this project enables them to put their skills in collaborative working into practice to solve a technical case-study. Formal credits are not awarded for participation in the project week; however, it enables students to develop and demonstrate many of the key general skills required by employers, including entrepreneurial problem solving, accomplished communication, and cultural agility. Students must attain a satisfactory standard in this project and the 'Global Engineering Challenge Week' by the end of Year 2.

At the end of Year 2, students refine their specialisation and elect to follow one of the two streams from their chosen pathway: Pathway A leads to either the BME or MDS stream, while Pathway B leads to the BMan or

BSTE stream

In Year 3, all students take 50 credits of core modules in project management (10 credits), finance and law for engineers (10 credits) and scientific writing (10 credits), plus a 20-credit group project in bioengineering. The remaining modules taken depend on the student's chosen elective stream, with a limited choice of optional modules (up to 20 credits) in Engineering and Science. Students are responsible for securing a suitable industrial placement for Year 4. If they do not find a suitable placement, they are required to transfer to the four-year MEng in Bioengineering at the end of Year 3.

In Year 4, students work in an engineering company for a minimum of 38 weeks. To reflect on the skills they have developed during the placement, students write a 3,000-word report and give a presentation to academic staff. No mark is awarded for the placement; students either pass or fail.

In Year 5, a significant part of the degree is a 45 -credit individual investigative project, which allows students to specialise in their area of interest. The project is supervised by an academic member of staff from the department appropriate to the research topic. The remaining modules follow the elective stream pursued in Year 3.

During Years 1 and 2, students may transfer their registration to study for a four-year BEng in Biomedical Engineering with a Year in Industry. At the end of Years 2 and 3, students not meeting specified progression criteria for the MEng Year in Industry degree are required to transfer to the MEng or BEng in Biomedical Engineering. At the end of Year 3, students not meeting specified progression criteria for Year 4 of the MEng degree are required to exit the programme with an unaccredited BEng degree in Biomedical Engineering Technology. In Year 4, a student who fails the placement may be permitted to transfer to the fourth year of the MEng Biomedical Engineering degree. In Year 5, no changes of registration are allowed. A student who does not pass the individual investigative project at the first attempt may be permitted to graduate with a BEng in Biomedical Engineering with a Year in Industry.

The weightings of modules towards the overall classification of the degree are based on the levels of the modules taken, whereby:

FHEQ 5 20%, FHEQ 6 40%, FHEQ 7 40%

The industry placement year is assessed on a pass/fail basis and does not contribute to the degree classification

Detailed information about the structure of programmes, regulations concerning assessment and progression and descriptions of individual modules are published on-line at https://www.sheffield.ac.uk/bioengineering/current-students/course-information/ug/index.

21. Student development over the course of study

Year 1: Students will be introduced to the basic principles and language of human biology, anatomy and physiology. They will be able to discuss the function and diseases that affect specific regions of the body and how these may be investigated by bioengineers. They will also be introduced to a range of engineering subjects including biomaterials, systems modelling, simulation and control, electric and electronic circuits, and systems engineering mathematics. They will be able to apply standard methods to analyse relatively simple problems in these areas. They will undertake practical experiments and will be able to present, interpret and evaluate data reliably. They will be introduced to the basic concepts and language of bioengineering and will understand how engineering is currently applied to medicine and biology. They will be introduced to a variety of skills including ethical and social aspects of engineering, employability skills, plagiarism, innovation and creativity, group working and presentation skills.

Year 2: At this stage students will follow one of 2 pathways that will introduce more advanced topics in the area of interest to their future study and career. They will also be introduced to more advanced topics in bioengineering. They will have a more extensive knowledge and understanding of the broad subject areas contributing to bioengineering. They will be applying these to more advanced laboratory work and, in some cases, to design activities and to the solution of specific bioengineering problems. They will continue to develop their independent learning and communication skills, and their ability to work in teams.

Year 3: Students will refine their choice of specialism by selecting one of two streams available from their chosen pathway. They will develop an in-depth understanding of how specific fields of engineering are combined and applied in bioengineering. At this level they are exposed to engineering management techniques that can be used to enhance the application of their core engineering skills. They will also learn how to write

scientific papers. They will engage in a group research, design and build project requiring innovative, conceptual thinking, enterprise and the application of management skills. By this stage they are expected to have become self-motivated, efficient and organized independent learners.

Year 4: Students spend the year in a bioengineering company. They will work with time and funding constraints on a graduate-level project (or series of projects). Their written reports and oral presentation will allow them to record and reflect on their experiences. They will be able to develop enhanced technical and professional skills, and specialist knowledge, which they can then apply to their studies in the final year.

Year 5: Students will undertake a 45 credit individual investigative project, over two semesters, in which students can demonstrate the full range of personal, communication and academic skills they have developed during the degree. These should include an ability to design and carry out independent research, critically evaluate the results and discuss them in the context of current literature. The project is assessed at the end of Year 5 through a report, the professional engineering skills displayed by the student during the project, and an oral and poster presentation at which students are questioned on their research by a panel of academic staff and industrialists. This assessment enables the student to demonstrate the level of their professional development as a bioengineer. The taught modules continue to be appropriate to the student's chosen elective and allow them to specialise still further. Many of these modules are at the cutting edge of their discipline.

On successful completion of the programme: Students will have obtained the necessary academic qualification and practical engineering applications experience to become a Chartered Engineer. Full Chartered Engineer status requires appropriate experience working as a graduate engineer. Students will be well prepared for a career in the healthcare industry and related fields, in other engineering sectors, and also in a wide range of other graduate careers. They will be able to assess whether they have the ability, motivation and interest to pursue postgraduate training or research.

22. Criteria for admission to the programme

Detailed information regarding admission to the degree is available at https://www.sheffield.ac.uk/bioengineering/undergraduate-study/apply/home

Biomedical Engineering with a Year in Industry at Sheffield is suitable for well-qualified and motivated students. The admissions procedure is aimed at ensuring all new students meet the requirements for successful completion regardless of their educational or other background.

Applicants typically have A-levels in Mathematics, plus one other science subject (there is no requirement for a particular science A level) and a further A level. Other equivalent qualifications are also acceptable. These include some VCE A-levels and BTEC qualifications, Scottish Advanced Highers, Irish Leaving Certificate and a range of overseas diplomas and certificates.

All applicants require an English language qualification, typically GCSE or IELTS, with a result at an appropriate level.

For applicants who have not taken Mathematics and science, or who have not achieved the required grades for direct entry the University offers a Biomedical Engineering with Foundation Year option. Foundation students who pass the year are guaranteed entry to the first year of the Biomedical Engineering degree.

Direct entry into the second year of the degree may be possible with suitable qualifications.

23. Additional information

Biomedical Engineering at Sheffield has an academic Director, who oversees the degree; and a team of academic staff who are responsible for supporting the Director in the management and oversight of the degree; and an administrative team who deal with the degree's day-to-day running. They are all available to provide general help and advice on all aspects of the degree and university life. Every student has a Personal Tutor who is an academic member of the staff in one of the engineering departments participating in the degree, and who acts as a professional mentor to guide, help and support the student. This includes advising on module choices, career decisions and providing references. Students see their Personal Tutor at least once fortnightly in the first year, at least three times a semester in Years 2, 3 and 5. Attendance at tutorials is compulsory and monitored. Students are generally supported by the same Personal Tutor throughout their degree.

Students are expected to find their own placement (either in the UK or abroad), although we can assist through the many contacts University staff have with industry. The Employability Hub in the Faculty of Engineering regularly updates students on companies with suitable placements and briefs them on CV writing, strategies for

securing a placement, and the practicalities of placement work. It is expected that students receive a salary for their work; around £14k per annum is the norm. The Year in Industry Tutor and the administrative staff maintain regular contact with the student and the placement provider throughout the year to check that the placement is going well. For all UK- and EU-based placements, a member of academic staff also visits the company. Students are encouraged to make use of the placement company's mentoring scheme in order to work towards Chartered Engineer status.

The University and the Faculty of Engineering place strong emphasis on ensuring our graduates have all the attributes necessary for success in their chosen career. Students are assisted in their self-development and continuing professional development through activities embedded throughout the entire degree, including personal tutorials, the 'Global Engineering Challenge' and the 'Engineering – You're Hired' project, and via various taught modules. Students benefit from wide ranging individual support and guidance to assist them in securing industrial placements (summer vacation placements as well as the year in industry) and jobs. This includes Careers events specifically for Bioengineering students in each year of their degree, which provides career inspiration and guidance, and enables our students to meet potential employers, and to refine their CVs and understanding of how to succeed in the application process. This reinforces the careers support available throughout the degree from the University's Careers Service (https://www.sheffield.ac.uk/bioengineering/current-students/careers) and from the Employability Hub. This support continues after students have graduated.

We maintain strong links with our graduates who provide input into our degrees and provide practical help to students in preparing for employment.

Further details about Bioengineering, including student profiles and the latest news from our students and staff, can be found at http://www.shef.ac.uk/bioengineering/

This specification represents a concise statement about the main features of the programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at http://www.shef.ac.uk/ssid.