

Clinical Technology BSc (Hons) Programme Specification

Academic Year:	2026/2027
Degree Awarding Body:	The University of Bradford
Main Location:	City Campus
Subject Benchmark Statement:	Engineering (Quality Assurance Agency 2015)
Qualifications Framework:	HE Qualifications of UK Degree Awarding Bodies (FHEQ: QAA 2014)
Target Degree Award:	BSc (Hons) Clinical Technology [FHEQ Level 6]
Intermediate/exit Awards:	BSc (Hons) Engineering (Clinical Technology) [FHEQ Level 6] BSc (Ord) Clinical Technology [FHEQ Level 6] Diploma of Higher Education Clinical Technology [FHEQ Level 5] Certificate of Higher Education Clinical Technology [FHEQ Level 4]
Programme Admissions:	UK and international students
Programme Start Date:	September
Programme Modes of Study:	Ucas code H900: 3-years full time Ucas code H901: 4-years full time with sandwich placement year

This programme is accredited by the Institution of Engineering and Technology (IET). It's recognised by the UK Engineering Council as leading to partial Chartered Engineer (CEng) status with some further learning required. This means you'll have a great head start to a professional engineering career in a wide range of fields related to the design and development of health electronics with widespread international recognition for your degree. Visit the [Institution of Engineering and Technology \(IET\)](#) to find out more about technological engineering and Further Learning towards CEng.

Please note: The University has a set of terms and conditions for all students accepting an offer to study on a course here at Bradford. This is called the Student Contract. This document sets out the Terms and Conditions which apply when you accept an offer of a place on a programme of study at the University of Bradford. [View our Student Contract for further details](#). Information about this programme and its modules has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but changes may occur given the interval between publishing and commencement of teaching. Any change which impacts the terms and conditions of an applicant's offer will be communicated to them.

Minor Modifications Schedule

1. July 2025: Annual Changes for the 2025 academic year, including changes to academic regulation.
2. January 2026: Added missing section
3. May 2026: Annual changes for the 2026 academic year, updated references and modes of study

Introduction

The National Health Service, together with the associated medical services industry, needs skilled and qualified graduates to provide vital technical support in hospitals, assisting in the diagnosis, treatment and rehabilitation of patients. These graduates require a multidisciplinary skills profile, including elements of engineering, life sciences and health studies.

Technological innovation in the field of medicine and healthcare is accelerating at an enormous pace. The modern hospital is now the centre of a technologically sophisticated healthcare system, and this requires equally technologically sophisticated staff. The BSc (Hons) in Clinical Technology course aims to provide this skill base, equipping students for careers in a range of health-related technology disciplines. The programme is run in collaboration with local hospitals, adding a clinical perspective to the teaching.

You will specialise in three areas - renal technology (dialysis), rehabilitation engineering (prosthetics/orthotics), and medical technology/engineering. Upon graduation students will have the capacity for meaningful interdisciplinary interaction, leadership roles, and professional growth, which may include seeking Chartered Engineer (CEng) status and becoming accredited to work as a Clinical Technologist within the National Health Service, work in medical equipment manufacturing and maintenance, or pursue further study in biomedical and clinical engineering.

Designed for the next generation of technologists

Clinical Technology studies at Bradford will be a launch platform for your future, developing a deep understanding of fundamental and advanced technical principles, analytical tools, and competence in their application together with a wide range of management, personal and professional skills. An excellent way to further develop these skills is to undertake an integral industrial placement as part of the degree studies.

Our programmes have been designed as part of the [CDIO educational framework](#) for producing the next generation of technologists. This will provide a learning experience that stresses the engineering fundamentals set within the context of **Conceiving, Designing, Implementing and Operating** real-world systems and products. This framework has been developed by universities across the globe and benefits from the ongoing collaborative experience of engineers and educationalists. This will mean that students learning will reflect the real world, their work in teams to solve real-world problems and in the process they will develop professional skills alongside technical skills.

We recognise that society benefits from the talents of all, and that the development of creative, collaborative technologists, skilled in communication and teamwork is vital. Diverse clinical teams are known to be more effective. We help students to contribute to and learn from the varied perspectives of their tutors and peers. We want to equip our graduates with the knowledge and skills to respond to the many different needs of our businesses and communities.

[The Faculty of Management, Sciences and Engineering](#) welcomes and celebrates the diverse cultural and national backgrounds of our students. We are committed to an educational experience that is inclusive of the diversity of the students and staff, and that addresses attainment gaps within our student body, particularly those between BME and white students. The

University of Bradford holds Bronze [Athena Swan Charter](#) and [Race Equality Charter](#) accreditations from [AdvanceHE](#), recognising our commitment to advancing the careers of everyone in STEM.

We also recognise that the future for clinical engineers and clinical technologists is one where they will be working in interdisciplinary teams to solve new, complex and evolving problems that will require innovative solutions. Students' ability to work across engineering disciplines and collaboratively with experts in other specialist fields will be crucial to creating the solutions of tomorrow. We have designed our programmes to encourage and experience interdisciplinary working, to develop breadth as well as depth of skills and knowledge, and in this way, we believe students will be ideally equipped to be successful and employable.

All our programmes are designed to provide three progression routes for graduates. Upon graduation students will be equipped to be employed as a clinical technologist. If this is their goal, they should seriously consider a placement year as this will be invaluable. Alternatively, students could pursue a research career, they will have highly developed research skills, and their personal tutor can help them identify postgraduate research opportunities here at Bradford. The third route open to students on graduation is to develop their own business. As a Bradford clinical technologist graduate, students will have the skills to design and develop healthcare products, processes, or systems that could have serious commercial potential. We have a long track record of supporting and developing new companies and helping students on those first steps as an entrepreneur.

The ability of a clinical technologist to think clearly, logically and ethically is widely appreciated by many other professions and studies at Bradford may well be a stepping-stone to many alternative careers other than NHS or healthcare industries. As a clinical technologist graduate from Bradford students have a real foundation for life and for a lifetime of learning.

Learning with and as part of a research community

[The School of Computing and Engineering](#) places emphasis on both teaching and research. Lecturers at Bradford are active researchers in their fields of expertise producing peer-reviewed knowledge through publications in journal articles and books. This research permeates to their teaching practice giving students access to world leading professionals, equipment and ideas within the Engineering and Artificial Intelligence research theme of the [Institute of Digital and Sustainable Futures](#).

Each year after the foundation stage, students will engage in enquiry-based projects allowing learning through research. We have particular research strengths in biomedical engineering (design of implants, scaffolding for tissue replacement, and prosthetics); biomaterials (including the creation of complex components from powders, composites, and polymers); computer modelling and design (human movement, virtual testing, and rapid prototyping).

We conduct this research jointly with many companies including Johnson & Johnson, Smith & Nephew, Siemens Medical and others and this work shapes and informs our undergraduate programmes. Each year students will engage in enquiry-based projects allowing learning through research. Participating in programmes of study including research that include an emphasis on application, experiential learning and real-world engagement will make a major contribution to students developing skills and attributes for enhanced employability.

Students will have many opportunities to contribute to their Higher Education Achievement Report (HEAR) whilst with us. Students can gain HEAR accreditation for becoming student representative for their course, by becoming a student ambassador, helping with open days and applicant experience days, or by being a PAL leader. The peer assisted learning scheme or PAL is where students in stages two and three support new students of the University. The PAL scheme has been very successful, providing guidance on all aspects of being a student of Bradford. PAL leaders become mentors and role models for new students. We support people to become PAL leaders but we also recognise their contribution through the HEAR.

Programme Aims

The programme is intended to:

- A1. Develop graduates with a solid grounding in engineering and healthcare technology fundamentals and experience of interdisciplinary working.
- A2. Help students to develop a firm foundation in the engineering, science, design and technology of healthcare.
- A3. Provide the educational requirements to permit progression to careers in Clinical Technology within the National Health Service and related industries.
- A4. Provide the educational requirements (in compliance with [UK-SPEC](#)) to permit progression to Incorporated or Chartered Membership of the Institute of Engineering and Technology as well as registration as an Incorporated or Chartered Engineer with the UK Engineering Council.

Programme Learning outcomes

To be eligible for the FHEQ Level 4 award of Certificate of Higher Education, students will be able to:

- 1. Select and apply physical principles to describe fundamental engineering and technology processes.
- 2. Select and correctly apply quantitative methods to analyse the performance of engineering and healthcare technology components and systems.
- 3. Select and use appropriate and relevant materials, equipment, tools, processes, or products.
- 4. Apply simple computational techniques to simulate and visualise the solution to specified engineering problems.
- 5. Apply skills in problem solving, working with others, information retrieval, and effective use of general IT facilities, and communicate work to technical and non-technical audiences.
- 6. Exercise personal and professional responsibility, which may be as a team member, and include evidence of safe and effective workshop and lab practice.

Additionally, to be eligible for the FHEQ Level 5 award of Diploma of Higher Education, students will be able to:

7. Understand the essential concepts, principles and theories of clinical technology.
8. Select mathematical and statistical methods necessary to underpin the engineering discipline and proficiently apply tools and notations in the modelling, analysis, solution, and evaluation of engineering problems.
9. Apply analytical and computational methods to solve and visualize problems in the engineering discipline and to implement appropriate action.
10. Apply problem-solving skills, technical knowledge and understanding to create/adapt and evaluate design solutions that are fit for purpose (inc. operation, maintenance, reliability etc.).
11. Apply relevant practical and laboratory skills to obtain accurate data to evaluate system performance and/or validate system models.
12. Plan and apply safe methods of construction and manufacture to semi-open projects, deriving solutions that consider technical, regulatory, and client requirements.
13. Work effectively as a specialist within in a multidisciplinary team towards a shared objective.

Additionally, to be eligible for the FHEQ Level 6 Honours Degree award, students will be able to:

14. Generate innovative designs for products, systems, components or processes to fulfil new needs.
15. Select, apply, and evaluate quantitative tools and data collection methods to underpin the engineering and clinical technology discipline, and apply a range of tools and notations proficiently and critically in the analysis and solution of engineering problems.
16. Select, apply and effectively integrate knowledge of other engineering disciplines to support study and evaluation of the engineering discipline.
17. Apply principles of organisation and management (project management, change management, health and safety, self-management) to achieve engineering and technology objectives.
18. Demonstrate comprehensive knowledge and understanding of the concepts, principles and theories underpinning Clinical Technology.
19. Apply engineering principles to critically analyse problems to create innovative process and product designs, with systematic appreciation of key aspects of field of study, including acquisition of coherent and detailed knowledge informed by characteristics of the engineering and technology discipline.

20. Plan and implement an individual programme of work, monitoring and adjusting where appropriate in an on-going basis, utilising research skills to critically evaluate and report on technical literature and newly developed data, and reflect on personal and professional development to improve their performance
21. Describe and work effectively and collaboratively in different roles within a team, and evidence responsibility of healthcare technologists and engineers to consider environmental and socio-economic aspects in the development of sustainable solutions.
22. Use appropriate discipline software packages in the modelling, simulation, analysis, design, and critical performance evaluation of composite engineering systems in the discipline.
23. Correctly identify and use codes of practice and industry standards.

Learning and Teaching Strategy

The University of Bradford aims to create an inclusive learning culture and transformative university experience that empowers our students to realise their ambitions and make a positive difference to the world. This vision will be realised through the achievement of three objectives: inclusive curriculum, inclusive experiences and inclusive community. We aim to make learning accessible to all of our students regardless of starting point or individual circumstance.

The teaching and learning strategy takes into consideration the learning outcomes that need to be achieved, progression through the levels of study, and the nature of the subject. One of the goals of Higher education is that students develop lifelong learning skills and are increasingly able to take greater responsibility for their own learning as they progress through the programme.

The student journey has been considered at programme-level and our strategy begins with the end in mind. We want students to become great engineers; that means great problem solvers, great team-workers with an inquisitive and curious mind. This should mean that by the end of their study with us they can move seamlessly into the world of work, academic research or become an entrepreneur. In addition to the modules, academic skills workshops will be organised during the year to provide further support in self-regulation, persistence, and the development of essential skills such as digital literacy.

Study with us will include on-line and face-to-face teaching. Online lectures (including those from Visiting Lecturers) may be pre-recorded, so you can watch them at your convenience, or live interactive webinars. Tutorials and seminars will often be in smaller groups and highly interactive. We want to develop students' understanding of the vast array of opportunities open to healthcare science professionals and therefore we look to incorporate aspects of real-world problems and solutions where possible. To this end we make use of case studies, practical demonstrations, and provide lots of opportunities for students to design their own solutions.

As part of our focus on building a learning experience which will prepare students for the world of work our curriculum has been developed using the [CDIO educational framework](#). This means that our learning strategy will be to encourage students to work in teams to **Conceive** potential solutions, **Design** new products processes or services, **Implement** (or model) and test those designs, and **Operate** the product or solution. In line with the CDIO philosophy students will have numerous opportunities to be an active learner, to work as an engineer on real-world projects.

Students will be involved in project work from the start of their time with us and these projects will become more complex and challenging as their skills and knowledge develop. At Levels 5 and 6 students will engage with practical work on biomedical engineering devices, movement analysis and physiological measurement in purpose built modern and up to date electronics and physiological laboratories. Students will design and manufacture biomedical equipment using standard procedures and use control and measuring techniques in a supportive and collaborative environment with their supervisors.

Assessment Strategy

In the same way that our teaching and learning strategy is designed to prepare students for the world of work, academic research or entrepreneurship, our assessment methods incorporate a wide range of different methods designed to meet the needs of industry, the accrediting bodies as well as prepare students for a potential academic research career.

Assessment is a key part of the learning process, it is only through challenging themselves to express what they have learned or put it to practical use, that students can complete the learning journey and assess for themselves if they have understood what they have been taught and are able to apply and use those skills and that knowledge. Practical skills are often assessed via individual and group technical reports with the laboratory work linked with the taught modules. The methods of assessment of transferable skills are built in the structure of the examinations, case studies, laboratory demonstrations and project work. Broadly speaking, there are two categories of assessment, formative and summative.

Formative assessment provides an opportunity for our staff will give students feedback during their learning. This feedback is designed to help and guide learning. All the modules will have some formative assessment and this may be in various forms including discussions or questioning from the supervisor, tests, practical activities, et cetera. These formative activities are crucial if students are to make best use of their learning experience and they are designed to prepare students for their summative assessment.

Summative assessment is how we grade the work on a module and the details of this assessment will be available from the beginning of the module so that students understand how their grade will be determined. A main method of assessment (common on all professional engineering degree programmes) is by formal written examinations. The methods of assessment of transferable skills are built in the structure of these examinations, case studies, laboratory demonstrations and the 'Design Project' work.

Curriculum

The Bachelor of Science degree at Bradford is made up of 360 credits over three stages.

Within each stage, the BSc Clinical Technology curriculum is organised into modular units studied across the "Academic Year" period of September to May or discretely in a single Semester period.

Modules in stages 1 and 2 are core for all students, which means all students study the same modules together:

Stage 1 Clinical Technology Core Modules (Level 4/CertHE)

Code	Module Title	Credit	Period
ENB4002-B	Computer Aided Engineering	20	Academic Year
MHT4006-B	Design, Build and Test (Biomedical Engineering)	20	Academic Year
MHT4007-B	Electronics and Mechanics (Biomedical Engineering)	20	Academic Year
ENM4005-B	Mathematics for Clinical Technologists	20	Academic Year
MHT4004-B	Clinical Instrumentation and Imaging	20	Semester 1
MHT4005-B	Radiology and Radiation Engineering	20	Semester 2

Stage 2 Clinical Technology Core Modules (Level 5/DipHE)

Code	Module Title	Credit	Period
MHT5007-B	Cell and Tissue Biology	20	Academic Year
MHT5011-B	Clinical Movement Analysis	20	Academic Year
HWS5501-B	Data-driven health: epidemiology and population health	20	Academic Year
ELE5016-B	Embedded Electronics	20	Academic Year
MHT5014-B	Functional Anatomy and Human Physiological Measurements	20	Academic Year
MHT5005-B	Healthcare Technology Project	20	Academic Year

For stage 3, students study 100 core credits including the Individual Research Project and select 1 of 2 available option modules for the final 20 credits of the year.

Stage 3 Clinical Technology Modules (Level 6/BSc)

Code	Module Title	Credit	Period	Selection
MHT6020-B	Medical Ethics and Quality Management	20	Academic Year	Core
ENG6003-D	Individual Research Project	40	Academic Year	Core
ENG6004-B	Integrated Design	20	Semester 1	Core
MHT6019-B	Rehabilitation and Prosthetics	20	Semester 2	Core
MHT6013-B	Biomaterials with Implant Design and Technology	20	Academic Year	Option 1
MHT6014-B	Renal Technology	20	Academic Year	Option 2

Placement and/or Study Abroad

This programme provides the option for students to undertake a work placement or period of study abroad in the penultimate year of study (between the 2nd and 3rd years of a BSc). Students wishing to take this option will be encouraged to register for the placement year programme. All School of Computing and Engineering students are encouraged to apply for Industrial Placements (Year in industry). Further information about [internships and placements](#) and [study abroad opportunities](#) is published on the University's website.

Timetabled pre-placement lectures and timetabled 'drop-in' sessions will be scheduled to support students throughout the pre-placement process. All placement opportunities received are made available to students on the placement route via the VLE.

Any placement or period of study abroad is subject to approval by the Programme Team. Students who wish to participate in a placement or period of study abroad will be required to find, apply for and make the most of their chosen opportunity, and will be supported in doing so by the Programme Team as well as the central University Careers and Employability Service.

Students on placement or study abroad will be registered for the optional FHEQ Level 5 modules **ENG5002-Z (Placement)** or **ENG5004-Z (Study Abroad)** and encouraged to complete a diary and portfolio presentation of their activity, as completing this module on return to the University will enable evidence to be added to the academic transcript or HEAR.

Assessment, Continuation and Award Regulations

This programme follows the Assessment, Continuation and Award regulations published on the University's website for undergraduate courses ([Regulation 2](#)), with the following programme-specific variations for the target award as documented in the University's Variance Register:

- 4.2 [Pass Requirements]: Students must achieve a minimum of 30% in any individual assessment component that contributes more than 30% to the overall module mark.
- 5 [Reassessment]: Students who achieve an overall module mark of 40% or above but fail to achieve a 30% in the qualifying component will be permitted a supplementary assessment in that component.

At the end of stage 3, students may be awarded the target FHEQ Level 6 **Honours Degree** award of **Bachelor of Science in Clinical Technology** if they have achieved the award learning outcomes 1-23, successfully completed at least 360 credits and met the programme specific assessment regulations for an IET accredited award.

At the end of stage 3, students may be awarded the FHEQ Level 6 **Honours Degree** award of **Bachelor of Science in Engineering (Clinical Technology)** if they have successfully completed 360 credits and achieved award learning outcomes 1-23 but not met the criteria for an IET accredited award.

Students who exit the programme with 300, 240 or 120 credits completed may be eligible for an intermediate award titled "Clinical Technology" in line with the regulations. Intermediate awards are not IET accredited.

Admission Requirements

We are proud to be one of the most inclusive universities in the UK. All our students have potential, and we believe that as many people as possible should have the chance to benefit from higher education, no matter what their background or circumstances.

We take the time to understand the background of our applicants, understand their journey to education, and make decisions based on an applicant's potential to thrive at university and beyond.

All applicants are required to have Maths and English GCSEs at Grade 4/C or above or equivalent. Other RQF Level 2 qualifications such as Key Skills are acceptable. Students whose first language is not English should check the [standard undergraduate University language requirements](#) on our website.

A typical offer for a student applying to Stage 1 through UCAS would be **104 points**. Upon completion of a UCAS form students will be invited to the Faculty for an Open Day and interview where they will have the opportunity to meet staff, view the facilities and discuss “the Bradford experience” with current students. Students will be made aware of the range of engineering and technology programmes available within the Faculty together with a Foundation Year (Stage 0) attracting offers of 64 UCAS points.

Access and Recognition of Prior Learning

Applications are welcome from students with non-traditional qualifications, and/or significant personal/professional experience. For such applicants, evidence of their interests and any work experience would be required, and this would likely take the form of a portfolio of work and/or an interview with the programme.

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University of Bradford has procedures to evaluate and recognise this learning to provide applicants with exemptions from specified modules or parts of the programme. Find more information about [recognition of prior learning decisions](#) on the University website.

People thinking of studying with the University of Bradford don't need to wait for the start of the year to contact our Disability Service. The University can arrange for anyone to talk to this team about what support is on offer at Bradford including an invitation to our Get Set Day. To contact the Disability Service please complete the [request support form](#).

We are committed to raising aspirations and widening access to higher education, regardless of your background. The [University of Bradford Progression Scheme](#) welcomes applicants from a number of groups including adult learners who are 21+ on the first day of term, British armed forces families, carers and care experienced learners, estranged or orphaned learners, refugees and asylum seekers, and Romani or Traveller family members.

Information in this document is for the contemporary recruitment cycle and was accurate at time of publication. The current tariff and accepted qualifications for entry onto the programme is published at the online course page: <https://www.bradford.ac.uk/courses/ug/clinical-technology-bsc/>