UNIVERSITY of BRADFORD

Faculty of Life Sciences

Programme Specification

Programme title:

BSc Clinical Sciences

Academic Year:	2021-22
Degree Awarding Body:	University of Bradford
Partner(s), delivery organisation or support provider (if appropriate):	Not applicable
Final and interim award(s):	**BSc (Honours)** [Framework for Higher Education Qualifications, level 6] **BSc (Ordinary)** [Framework for Higher Education Qualifications, level 6] **Diploma of Higher Education** [Framework for Higher Education Qualifications, level 5] **Certificate of Higher Education** [Framework for Higher Education Qualifications, level 4] **Foundation Certificate** [Qualifications and Credit Framework / National Qualification and Credit Framework, level 3]
Programme accredited by (if appropriate):	Not applicable
Programme duration:	Three years full-time, or four years with Foundation Year Four or five years full-time with placement / study abroad year
UCAS code:	B990, B991
QAA Subject benchmark statement(s):	Medicine (2002), Access to Higher Education Diploma: Medicine (2020 / 2021), Biomedical Sciences (2019), Biosciences (2019), Health Studies (2019) and the outcomes for graduates 2018 published by the General Medical Council.
Date last confirmed and/or minor modification approved by Faculty Board	August 2021

Please note: This programme specification 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. Upon commencement of the programme, students will receive further detail about their course and any minor changes will be discussed and/or communicated at this point.

Introduction

Clinical Sciences at the University of Bradford is a multidisciplinary degree programme which provides students with integrated understanding of science and health-related issues in preparation for varied careers in healthcare, research and the pharmaceutical & bioscience sectors. The programme will also prepare students for entry to graduate-entry medicine and dentistry and physicians associate programmes.

Clinical Sciences is three years full-time, or four years including an optional foundation year (dependent on entry qualifications). Students have the option to undertake an optional placement/ study abroad year between years two and three. This can either be at a university outside the United Kingdom or within a partner company or institution.

Core scientific knowledge in medical sciences and anatomy from subcellular organelles to body systems will be supplemented with a strong emphasis on personal and professional development throughout the programme. This will provide students with the confidence and transferable skills to engage in effective lifelong learning in their future career. Students will also develop research and critical analysis skills which are essential in the ever-changing medical and scientific landscape. Placements, meaningful clinical experiences and interaction with patients and carers with be used to provide valuable experience and context.

Depending on an applicant's qualifications and experience in healthcare settings, entry to the programme is either via the Foundation Year or directly into year one of the BSc programme. This allows for different rates of development for students from a variety of educational backgrounds.

The programme offers opportunities for students to transfer to the MPharm degree at Bradford at the end of Foundation Year (or end of first year, with exceptional circumstances). Students studying Clinical Sciences are eligible to apply for internal transfers to other degree programmes within the Faculty of Life Sciences (some courses are exempted). Students may choose to apply, via The Universities and Colleges Admissions Service (UCAS), to medical schools during foundation year. Clinical Sciences has a link with Sheffield medical school, who offer a limited number of places for students who meet the academic and widening participation criteria - application is via UCAS in June.

Opportunities for Clinical Sciences graduates will reflect their portfolio of medical science, clinical insight, health studies, management studies, professional and transferable skills. In addition, Clinical Sciences has been proven to be an accepted and popular route into graduate medicine and dentistry and physicians associate programmes throughout the United Kingdom. Graduating students will be able to embark upon a career within the National Health Service including health service management and specialist clinical and healthcare scientist training programmes.

Programme Aims

The programme is intended to:

A1 Develop approaches to learning and teaching that are based on curiosity and exploration of knowledge in preparation for lifelong learning and reflective practice.

A2 Encourage autonomous learning, critical analysis and an understanding of the constraints and limitations of scientific, clinical, and medical research.

A3 Produce graduates with excellent communication, teamwork, problem-solving, decision-making, organisational and time management skills who are well prepared for employment or further study.

A4 Develop students' ability to critically appraise advances in science and health technologies through an ethical framework; students will learn to articulate a debating position based on their informed opinion.

A5 Develop respect for colleagues and service users that encompasses, without prejudice, diversity of background and opportunity, language, culture, and way of life.

A6 Develop knowledge and understanding of health and its promotion, healthcare management, the causes and mechanisms of disease, prevention, and treatment.

A7 Give students the opportunity to study abroad or undertake an industrial placement

Programme Learning Outcomes

To be eligible for the award of Foundation Certificate at QCF/NQF level 3, students will be able to:

LO1 Demonstrate an awareness of professional boundaries.

LO2 Assess and reflect on personal and professional growth and recognise the importance of managing time, self and resources effectively.

LO3 Apply self-directed learning skills to research, review and summarise science and health-related publications.

LO4 Individually and as a team undertake oral and written presentations, problem-solving, numerical and laboratory skills.

LO5 Apply fundamental chemistry concepts to biological systems and medical treatments.

LO6 Identify and understand core aspects of human biology and anatomy.

LO7 Understand the importance of, and evaluate, the roles of health and social care workers and the National Health Service.

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

LO8 Evaluate and reflect on personal and professional growth and demonstrate the importance of managing time, self and resources effectively.

LO9 Apply self-directed learning skills to research, review, summarise and present science and health-related publications.

LO10 Evaluate and interpret qualitative and quantitative data taken from relevant publications and communicate the results accurately and coherently in a structured manner.

LO11 Understand the structure and normal function of the cardiovascular, respiratory, renal, reproductive, urogenital, and gastrointestinal systems.

LO12 Understand the scientific principles of the causes, symptoms, and treatment of cardiovascular, respiratory, renal, reproductive, urogenital, and gastrointestinal disease.

LO13 Individually and in groups undertake oral and written presentations, and demonstrate problem-solving, numerical and laboratory skills.

LO14 Evaluate and interpret ethical and legal issues within healthcare to make sound judgements with structured and coherent arguments.

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

LO15 Reflect, analyse, and take responsibility for personal progress and effective skills development in order to manage time, self and resources effectively.

LO16 Develop and evaluate personal and professional skills including effective oral and written presentation, problem-solving, decision making and team-working skills.

LO17 Research, review and critically analyse science and health-related literature and experimental data using independent learning skills.

LO18 Demonstrate a critical understanding and application of the underlying principles relating to the pathology and treatment of common diseases and disorders.

LO19 Demonstrate a critical understanding of the underlying principles relating to global and digital heath.

LO20 Understand the application of current, future, and emerging technologies in healthcare and scientific research.

Additionally, to be eligible for the award of Ordinary Degree of Bachelor at FHEQ level 6, students will be able to:

LO21 Apply and critically evaluate the concepts and principles of management in healthcare to make informed judgements and decisions about contemporary issues and polices.

LO22 Critically analyse and interpret current and future trends and developments in science and healthcare provision in a socioeconomic and global context.

LO23 Understand and demonstrate coherent and detailed subject knowledge informed by recent research/scholarship in medical & clinical sciences.

Additionally, to be eligible for the award of Honours Degree of Bachelor at FHEQ level 6, students will be able to:

LO24 Critically evaluate personal learning needs through reflection and demonstrate a commitment to continuous learning and professional development.

LO25 Deploy accurately standard techniques of analysis and enquiry within the discipline of medical sciences.

LO26 Critically analyse and present findings from relevant literature and experimental data using independent learning skills with an appreciation of the uncertainty ambiguity and limits of knowledge.

LO27 Apply knowledge and understanding in order to initiate and carry out an extended research project.

Curriculum

Depending on initial qualifications and background, applicants may enter Clinical Sciences at year one or via the foundation year. Students will study 120 credits at all levels of the programme. The map of studies is detailed below showing core and optional modules (year three only).

The foundation year will provide the core knowledge in biology, chemistry, anatomy, physiology, and maths required for year one, Clinical Sciences. The foundation year will provide a transition between The National Qualifications Framework level 3 and the Framework for Higher Education Qualifications level 4 and equip students with the knowledge and skills to successfully complete a science-based degree. The foundation year also offers an opportunity for students who do not have a science-based level 3 qualification to transition into a three-year BSc. Consideration of health concepts from a global and socioeconomic perspective, the role and responsibilities of health and social care professionals and the consolidation of key skills will enable students to make an informed decision about their future career pathway. Students who successfully complete the foundation year will progress to year one of the BSc Clinical Sciences programme (level 4 within the Framework for Higher Education Qualifications). The foundation year is currently accepted for entry to other programmes in the Faculty of Life Sciences (with exceptions) or the Faculty of Health Studies and some medical schools within the United Kingdom (via UCAS).

In year one of the BSc in Clinical Sciences students will follow an integrated systems-based approach to study physiological systems of the body and disease. In addition to the underlying scientific principles, students will address multi-professional healthcare issues and develop their transferable skills.

In years two and three of the Clinical Sciences programme students will continue with the themes of systems-based learning, anatomy, drug action, healthcare challenges, innovation, and mechanisms of disease & pathology. Emphasis will be placed on the development of effective communication, cultural awareness, and team-working skills to provide students with the confidence and competence to embark on a career in research or allied health professions.

In the third-year students will have optionality in the supplementation and diversification of their core scientific knowledge through a choice of research topics to study. Students will get a further opportunity to choose between research skills and the anthropology of illness and disease, allowing students to align their third-year modules to their chosen career path. The Research Project will allow students to undertake hypothesis-driven research and further develop their skills in critical analysis, data interpretation and time management.

Stage 0 (Foundation Year)

FHEQ Level	Module Title	Type	Credit	Study Period	Module Code
3	Chemistry for Clinical Sciences	Core	20	Academic year	CLS3003-B
4	Biology for Clinical Sciences	Core	20	Academic year	CLS4007-B
4	Laboratory and Study Skills for Clinical Sciences/Medicine	Core	20	Academic year	CLS4006-B
3	Health and Society	Core	20	Academic year	CLS3001-B
3	Personal and Professional Development (Foundation)	Core	20	Academic year	CLS3002-B
4	Special Studies (Foundation)	Core	20	Academic year	CLS4008-B

At the end of Stage 0, students will be eligible to exit with the award of Foundation Certificate if they have successfully completed 120 Level 3 QCF/NQF credits and achieved the specified learning outcomes.

Stage 1

FHEQ Level	Module Title	Type	Credit	Study Period	Module Code
4	Academic Skills and Professional Development	Core	20	Academic year	CLS4009-B
4	Ethics, Law and Values in Healthcare	Core	20	Academic year	CLS4010-B
4	Systems Physiology and Anatomy	Core	80	Academic year	CLS4011-U

At the end of Stage 1, students will be eligible to exit with the award of Certificate of Higher Education if they have successfully completed at least 120 credits and achieved the award learning outcomes.

Stage 2

FHEQ Level	Module Title	Type	Credit	Study Period	Module Code
5	Anatomy and Pathology of Disease	Core	20	Academic year	CLS5007-B
5	Careers and Professional Development	Core	0	Academic year	CLS5008-Z
5	Digital Health and Enterprise	Core	20	Academic year	CLS5009-B
5	Global Health	Core	20	Academic year	CLS5010-B
5	Medical and Molecular Genetics	Core	20	Academic year	CLS5011-B
5	Neurobiology and Mental Health	Core	20	Academic year	CLS5012-B
5	Pharmacology and Therapeutics	Core	20	Academic year	CLS5013-B

At the end of Stage 2, students will be eligible to exit with the award of Diploma of Higher Education if they have successfully completed at least 240 credits and achieved the award learning outcomes.

Students registered on the programme who successfully progress to year three by achieving 120 credits at first attempt at the year two Board of Examiners, will be eligible to take a placement or study abroad year. Students who progress to year three but have a referral in one or more modules will not be able to go on placement or study abroad.

FHEQ Level	Module Title	Type	Credit	Study Period	Module Code
5	Study Abroad Experience	Optional	20	Academic year, between years 2 & 3	CLS5001-Z
5	Placement (Clinical Sciences)	Optional	20	Academic year, between years 2 & 3	CLS5006-Z

On successful completion of CLS5001-Z, students will be eligible for the award of University Diploma in Professional Studies (International).

On successful completion of CLS5006-Z, students will be eligible for the award of University Diploma in Professional Studies.

Stage 3

FHEQ Level	Module Title	Type	Credits	Study Period	Module Code
6	Advanced Topics	Core	20	Semester 1	CLS6006-B
6	Research Skills	Core	20	Semester 1	CLS6007-B
6	Careers and Professional Development	Core	0	Academic year	CLS6008-Z
6	Health Economics & Management	Core	20	Academic year	CLS6009-B
6	Research Project	Core	40	Academic year	CLS6010-D
6	Anthropology of Illness and Disease	Optional	20	Semester 2	CLS6011-B
6	Genomics and Personalised Medicine	Optional	20	Semester 2	CLS6012-B

Students will be eligible to exit with the award of Ordinary Degree of Bachelor if they have successfully completed 120 credits in both Level 4 and 5 and 60 credits at level 6 and achieved the award learning outcomes.

Students will be eligible for the award of Honours Degree of Bachelor if they have successfully completed at least 360 credits and achieved the award learning outcomes.

Placement and/or Study Abroad

This programme provides the option for students to undertake a work placement between years two and three. This year can be a study aboard year or industrial placement. This provides valuable experiential learning in a healthcare setting or in the pharmaceutical or biosciences sector. Not only will this improve students' understanding of final year material through application of knowledge, a placement year may significantly enhance employment opportunities.

There are also opportunities to undertake an additional year of study through the International Student Exchange Programme (ISEP) in over 30 countries including the United States, Ghana, Uruguay and at many European Universities. This is an exciting way for students to enhance their CV in an increasingly global environment and develop understanding of other cultures and language skills.

For further information about study abroad opportunities please refer to https://www.bradford.ac.uk/study/abroad/

Learning and Teaching Strategy

The learning and teaching strategies acknowledges the wide diversity of educational backgrounds with which students may enter the programme and the different exit points of students and graduates. Consequently, a variety of teaching and learning opportunities are used to reflect the differences in learning styles between students and to address the programme learning outcomes. Students are expected to demonstrate greater autonomy in their learning as they progress through the programme.

Students' knowledge, understanding and discipline skills are developed through lectures, practicals, group work, seminars, tutorials, workshops, online quizzes, debates, simulations, external visits and computer-assisted and self-directed learning. Case studies, group work, individual assignments, verbal presentations, problem-based learning and a portfolio will be used to develop students' personal transferable skills in self-directed learning and reflective practice in preparation for lifelong learning. Where appropriate, students' learning will be supported through integrated digital resources enabling students to learn in a flexible and independent way.

Personal and professional development, including academic skills, are key themes throughout the programme to enable students to build on essential transferable skills necessary for graduate employment or further study. Students will be taught how to identify their own learning needs, utilising skills assessment strategies and action planning to support the development of their personal transferable skills.

Assessment Strategy

The assessment strategy is designed to allow students to demonstrate achievement of the learning outcomes of an individual module appropriate to the level of study and the learning outcomes of the programme. These learning outcomes are consistent with the Framework for Higher Education Qualifications. At levels 3 - 4, students will be examined, primarily, on the breadth of knowledge via multiple choice questions and short answer questions. Coursework assignments will give the opportunity to gain experience in report writing and data handling and interpretation. As students'

progress through levels 5 and 6 they will have the opportunity to demonstrate increasing skills of analysis, synthesis and criticism through a wide variety of assessment strategies, including written examinations, report writing, case studies, group work, essays, and a dissertation. The research project report (dissertation) provides a major opportunity to demonstrate autonomy in data handling and critical interpretation in a research context.

Formative assessments are embedded throughout the programme to allow students to become familiar with new types of assessment and to enable students to assess and reflect on their own progress. Formative assessments will often be delivered as ongoing, in-class assessments using a variety of different methods as opposed to being formal examinations.

Assessment Regulations

This Programme conforms to the standard University Regulations which are available at the following link:
https://www.bradford.ac.uk/regulations/

Admission Requirements

The University welcomes applications from all potential students and most important in the decision to offer a place is our assessment of a candidate's potential to benefit from their studies and of their ability to succeed on this particular programme. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience such as clinical placements and voluntary experience.

The **minimum** entry requirements for the programme are as follows:

Our standard offer for the Foundation Year to someone seeking entry through UCAS would be 104 points from a maximum of three qualifications including a minimum of two A2 subjects at Grade C or above.

For entry directly onto BSc Clinical Sciences, the minimum admission criterion is 120 points from a maximum of three qualifications including A-level Chemistry and A-level Biology at Grade B or above.

BTEC National Diploma candidates should have a minimum of DMM (eligible for Foundation year entry only). Mature applicants with relevant experience and academic potential should contact the Admissions tutor for further advice. International students are encouraged to apply for entry to Stage 1 of the BSc Clinical Sciences Programme. International students should have the minimum English Language requirements of IELTS 6.5 (or equivalent), with not less than 6 in any sub-category, and equivalent qualifications to GCSE grade C or 4 in science and maths. GCSE passes should include English, mathematics, biology and chemistry (or dual award science) at grade C or 4.

On completion of a UCAS application, students are initially selected on the basis of academic potential, motivation, relevant experience and interpersonal skills and will be invited to attend a selection day. Selection is then via an assessed group activity and an individual interview. Students will also have the opportunity to meet staff, view the facilities and discuss studying at the University of Bradford with current students.

Minor Modification Schedule

Version Number	Brief description of Modification	Date of Approval (Faculty Board)
2	Updates for 2021-22 academic year	November 2021