UNIVERSITY of BRADFORD
Faculty of Life Sciences

Forensic and Medical Sciences
BSc (Hons) Programme Specification

https://www.bradford.ac.uk/courses/ug/forensic-and-medical-sciences-bsc

Academic Year:	2022/23
Degree Awarding Body:	The University of Bradford
Target Degree Award:	Bachelor of Science with Honours in Forensic and Medical Sciences [Framework for Higher Education Qualifications Level 6]
Interim/Exit Awards:	Ordinary Degree of Bachelor [FHEQ Level 6]; Diploma of Higher Education [FHEQ Level 5]; Certificate of Higher Education [FHEQ Level 4]
Subject Benchmark Statement:	Forensic Science (QAA 2012)
Programme Accreditation:	The Chartered Society of Forensic Sciences component standards for Interpretation, Evaluation and Presentation of Evidence (IEPE) and Laboratory Analysis (LA).
Programme Admissions:	September
Programme Modes of Study:	3 years full-time (UCAS FB49); 4 years full-time with industrial placement or study abroad (UCAS FBK9)

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.

Minor Modifications Schedule

1. June 2021: Annual changes for 2021 academic year
2. March 2022: Annual changes for 2022 academic year. Specification reformatted and made accessible. Updated professional services text

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Introduction

By far the greatest requirement of the professional forensic and police scientific sectors in addressing crimes against a person (serious crime) and identifying individuals are skills in the biosciences, and for crimes against property (volume crime), the skills of the chemical scientist. But forensic investigation draws on virtually every discipline of these and also on other sciences, including physics and mathematics, and those derived from them, such as medicine, computing, engineering and archaeology. The forensics discipline also encompasses subjects which are better defined within the humanities and arts including, for example, psychology, ethics and law, and a great many vocational subjects such as profiling, photography, nursing and reconstruction.

The School of Archaeological and Forensic Sciences in the Faculty of Life Sciences is a UK pioneer in the development of education and training in the forensic sciences in undergraduate courses. Our courses have acquired a strong reputation and they derive benefit from the successes of strong contributions from the School of Chemistry and

Biosciences. The BSc (Hons) Forensic and Medical Sciences course has been designed to deliver education and training in the essential core biomedical and forensic sciences to meet these requirements:

- Forensic investigation is integrated within each year of the course. Crime scene investigation and processing is taught through a series of simulated exercises based in our specially appointed Crime Scene Facility.
- Forensic Laboratory science is taught from our specialist Forensic Examination Laboratory and the analytical facilities in the School of Chemistry and Biosciences.
- Teaching on Forensic Taphonomy is based around lectures and practical classes in our specialist Forensic Taphonomy Laboratory (including autopsy tables, fume extraction and insect colony) and the Oxenhope Taphonomy Field Station.
- Forensic Anthropology is taught in our state-of-the-art osteology laboratories, supported by an extensive collection of human skeletal remains, Anatomage™ table (virtual dissection tool) and Virtopsy™ facilities (post-mortem imaging).

A wide range of transferable skills are embedded within the scientific programme as well as being delivered through modules in professional development. Degrees based on the biosciences prepare graduates for a wide range of careers including those in the professional medical and forensic sectors because of their broad basis and application. Throughout the programme, students will acquire skills that will be useful in their future career. These include project and time management, critical review and analytical thinking, presentation skills, computer and other applied IT skills and the management of data. These will be taught, practised and assessed.

Students enrolled on the 4-year programme will be offered the opportunity to undertake either a placement or study abroad between the second and final years of study. The placement allows students to develop their professional and transferable skills whereas study abroad allows students to explore their discipline from a different cultural perspective. Students are provided with opportunities to focus on topics of particular interest in their final year of study.

Programme Aims

The programme is intended to:

- deliver a programme of study in Forensic and Medical Sciences that is designed to meet the rigorous benchmarking standards developed by the Chartered Society of Forensic Sciences.
- develop students' ability to think critically and creatively and foster collaborative and group working skills.
- enable students to develop skills in analytical, biomedical and forensic investigation.
- provide opportunities for students to develop a systematic knowledge and understanding, of biomedical, analytical and forensic sciences, and enable them to apply these to forensic examination and analysis.

- deliver a programme of study that provides skills for employment and further study across multiple sectors.
- enable students to become autonomous learners and prepare them for the lifelong learning skills required to be adaptable over the course of their career.
- provide educational opportunities for mature and alternatively qualified students, school-leavers, and traditionally qualified students.
- provide students with the opportunity to enhance their learning and professional awareness by applying their knowledge and understanding in work experience through a sandwich placement year (4 year programme), or to study abroad (3 or 4 year programmes).

Programme Learning Outcomes

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

1. Describe the basic principles of cellular biology and human genetics.
2. Describe the basic principles of microbiology and biological molecules.
3. Recall a range of methods of forensic enquiry and recognise the importance of rigorous scientific process.
4. Manage time and learning effectively both independently and when working as part of a group.

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

5. Employ appropriate numerical and statistical techniques, scientific formulae and calculations.
6. Evaluate methods of scientific investigation within a forensic context.
7. Demonstrate understanding of human anatomy and compare relative methods of identification and autopsy.
8. Assess and apply a range of forensic and biomedical methods within different contexts.
9. Apply forensic examination techniques to a variety of physical evidence.
10. Undertake critical thinking and data evaluation within a range of biomedical and forensic scenarios.

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

11. Critically evaluate the importance and function of quality assurance and employ it within forensic contexts.

12. Critically evaluate forensic recording protocols and defend a witness statement.
13. Critically evaluate forensic evidence and its shortcomings in miscarriages of justice.
14. Plan and undertake a substantial piece of independent research.
15. Present written and oral evidence in a professional manner.

Curriculum

At the start of the programme, students will study 4 core modules across the academic year as well as discrete biosciences core modules in Semester 1 and Semester 2.

Stage 1 Modules

Study Period	Title	Code	Type	Credit	Level
Academic Year	Cell and Tissue Biology	BIS4008-B	Core	20	FHEQ 4
Academic Year	Human Genetics and Developmental Biology	BIS4010-B	Core	20	FHEQ 4
Academic Year	Independent Study for Forensic Scientists	ARC4014-B	Core	20	FHEQ 4
Academic Year	Principles of Forensic and Crime Scene Investigation	ARC4016-B	Core	20	FHEQ 4
Semester 1	Introductory Biochemistry	BIS4007-B	Core	20	FHEQ 4
Semester 2	Introductory Microbiology	BIS4013-B	Core	20	FHEQ 4

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.

In stage 2, students develop their learning with 5 more core modules and select 1 of 2 options in either of Medical Microbiology (Semester 1) or Pathology (Semester 2).

Stage 2 Modules

Study Period	Title	Code	Type	Credit	Level
Academic Year	Forensic Examination and Analysis of Physical Evidence	ARC5020-B	core	20	FHEQ 5
Academic Year	Statistics and Databases for Forensic Scientists	ARC5022-B	core	20	FHEQ 5
Academic Year	Virtual Anatomy for Forensic Sciences	ARC5017-B	core	20	FHEQ 5
Semester 1	Biometrics and Human Identification	ARC5006-B	core	20	FHEQ 5
Semester 1	Medical Microbiology	BIS5008-B	option	20	FHEQ 5
Semester 2	Forensic Biology	ARC5032-B	core	20	FHEQ 5
Semester 2	Pathology	BIS5015-B	option	20	FHEQ 5

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.

In Stage 3 students further develop their knowledge, skills and understanding through the study of 4 advanced topics, the selection of 1 additional optional module from 2 choices and the production of a substantial individual project/dissertation.

Stage 3 Modules

Study Period	Title	Code	Type	Credit	Level
Academic Year	Dissertation	ARC6025-D	core	40	FHEQ 6
Academic Year	Forensic Enquiry and Critical Case Study	ARC6035-B	core	20	FHEQ 6
Academic Year	Interpretation and Presentation of Forensic Evidence for Forensic Science	ARC6024-B	core	20	FHEQ 6
Semester 1	Forensic Genetics	ARC6036-B	core	20	FHEQ 6
Semester 1	Forensic Anthropology	ARC6011-B	option	20	FHEQ 6
Semester 2	Forensic Taphonomy	ARC6013-B	option	20	FHEQ 6

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.

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 or Study Abroad

This programme provides the option for students to undertake a work placement or period of study abroad between Stages 2 and 3. Work experience in an organisation can be hugely valuable in developing your professional and technical skills and experience, as well as providing an opportunity for you to see how much you enjoy and are suited to a role or industry. Students wishing to take this option will be registered for or transferred to the 4-year programme. Shorter placements may also be available for students on the 3-year programme over the summer periods.

4-year programme

Students registered on the 4-year programme who successfully progress to stage 3 at the stage 2 board of examiners will be eligible to take the placement year or study abroad. Students who progress to stage 3 but have a referral in one or more modules will not normally be able to go on placement or study abroad, particularly if that referral requires attendance. In such cases students on the 4-year course should discuss options with the Placement Tutor.

Any student wishing to study abroad for a year should contact at first instance the International Opportunities Team to discuss the available year abroad opportunities. Then, they will have to consult with the Faculty Exchange Coordinator on the academic

aspects of the exchange including the programme and modules. The student will have significant freedom in the selection of institutions and modules during the year abroad exchange. Finally, the Bradford Programme leader will be informed and consulted about the exchange to ensure compliance with any Bradford programme requirements. During the exchange the students will have support from the relevant University services.

After the placement or study abroad concludes, there is an assessment task to help you to contextualise your experience within the BSc programme.

Table 1: Placement and Study Abroad Modules

Study Period	Title	Code	Type	Credit	Level
Full Year	Placement	ARC5013-Z	Option	Exempt	FHEQ 5
Full Year	Study Abroad Experience	ARC5014-Z	Option	Exempt	FHEQ 5

On successful completion of ARC5013-Z, students will be eligible for the additional award of University Diploma in Professional Studies.

On successful completion of ARC5014-Z, students will be eligible for the additional award of University Diploma in Professional Studies (International).

3-year programme

For further information about summer placements please refer to:
https://www.bradford.ac.uk/careers/jobs/internships-and-placements/

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

Completion of short placements and study abroad do not lead to an additional accredited award but are still valuable activities recordable on your Higher Education Achievement Record (HEAR) and of interest to employers.

Learning and Teaching Strategy

The School of Archaeological and Forensic Sciences has developed its programmes around the principles of inclusivity and diversity, offering student choice and direction in learning, and development of autonomous skills. Our programmes integrate assessment for learning, in which learning sessions, assessment activities, intended outcomes and employability relevance are closely correlated and supported by formative feedback, aimed at student development.

Teaching on programmes across the School of Archaeological and Forensic Sciences incorporates innovative practice and technologies. We undergo regular formal review both by the University of Bradford and our professional accrediting bodies to assure high standards in our teaching quality and maintain relevancy in our subject material and professional context. Our teaching occurs on a foundation of trust and expectation; we expect and trust that students participate and engage with all learning and teaching activities, whether they occur on campus or online, and students can

expect and trust that staff will create engaging and productive learning and teaching environments.

The programme articulates with the Teaching and Learning strategies of the University. You will be exposed to a variety of teaching methods designed to develop the learning outcomes and to cater for different preferences for learning. A wide variety of teaching methods appropriate to the learning outcomes of the individual modules is employed throughout the programme. These methods progressively focus on student-centred approaches to learning. Thus, students will be expected to take responsibility for their learning as they progress through the programme. In this way, you will develop the attributes needed for life-long learning and continuing professional development.

Learning outcomes 1-13, will be developed in a number of modules, through a mix of lectures, seminars, laboratory practical sessions, workshops, case studies and directed study. Directed study will include directed reading of selected textbooks, specified source literature and open learning materials, directed Web-based materials, report writing and other assignments. In addition, individual project/dissertation work will further help to develop learning outcomes 14 and 15.

Where appropriate the disciplines of the medical sciences are brought together within the context of forensic science through the forensic science modules, studied at each stage of the course.

Student choice is further facilitated within the degree through optionality within some module assignments. This allows selection of topic and subject for coursework during certain modules, allowing diversity of focus in learning material, development of autonomous learning, and self-selection of degree focus.

Assessment Strategy

Assessments have been designed to allow you to demonstrate achievement of the learning outcomes of an individual module appropriate to their level of study and the learning outcomes of the programme. A wide range of formative and summative assessment methods are used, including a selection of laboratory reports, portfolios, expert witness statements, case reports, witness reports, mock court exercise (oral cross examination), essays, worksheets, critiques, group-work, poster and oral presentations, research designs, reflective journals and examinations (essays, short answers, MCQ). Students will develop their professional skills and personal development through the production of a CV, covering letter and skills audit. The research design and dissertation develops your ability to plan and undertake effective independent research.

Formalised formative assessment opportunities are available on a selection of modules across all stages of the degree, to offer informative feedback on specific assignments. Additionally, within our school learning and teaching philosophy, formative feedback encompasses much more, including discussions during lectures, seminars and tutorials; during practical and laboratory activities; verbal comments after presentations; and many other situations throughout your degree. A key skill that you will develop during the degree is the ability to identify feedback beyond that given as

written comments on submitted assignments; in fact, the most beneficial feedback you will receive is that given prior to assignments, allowing you to reflect and adapt, rather than just formal written feedback after assignments have been submitted and marked.

Assessment Regulations

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

Admission Requirements

We take into consideration a number of factors when assessing your application. It's not just about your grades; we take the time to understand your personal circumstances and make decisions based on your potential to thrive at university and beyond. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

Please note: This admission information is relevant to the contemporary recruitment cycle and therefore may be different to when this document was originally published. Details of other acceptable equivalent qualifications, English language requirements and the most recent entry requirements are available at the course page: https://www.bradford.ac.uk/courses/ug/forensic-and-medical-sciences-bsc/

RQF Level 2 Requirements

All applicants to BSc Forensic and Medical Sciences should have GCSE English and GCSE Mathematics of at least grade 4 or C, or an equivalent qualification such as Key Skills Level 2. We also require a GCSE Science at grade 4 or C or above.

The standard requirements for international students apply for English language (IELTS 6.0) and numeracy. Visit https://www.bradford.ac.uk/international/country/ for details of accepted equivalent science qualifications from your country. If you do not have IELTS 6.0 equivalent, you can study a pre-sessional English course with our Language Centre: www.brad.ac.uk/courses/other/pre-sessional-english-language-programme/

RQF Level 3 Requirements

Typical offers to candidates seeking entry through the UCAS scheme would be approximately 112 tariff points as follows:

- A-level BBC, where Chemistry and Biology are achieved at B and the practical element is passed.
- BTEC Extended Diploma DMM, where a science subject is required with a minimum of three Chemistry or Biology related units.
- Access to HE Diploma, where a science subject is required with a minimum of 12 credits of Chemistry/Biology at Distinction grade.
- Progression from the Bradford Foundation Year (UCAS Y006) where Chemistry and Biology modules have been studied and passed.

Requirements from some other acceptable qualifications are given on the course page or on application. If you are an International student and do not meet the entry requirements for direct entry onto this course you may be interested in our International College: https://www.bradford.ac.uk/international/international-college/

On completion of a UCAS form students will be invited to the School for an Open Day when they will have the opportunity to meet staff, view the facilities and discuss "the Bradford experience" with current students.

Access and Recognition of Prior Learning

Applications are welcome from students with non-traditional qualifications, and/or significant personal/professional experience.

The University of Bradford has always welcomed applications from disabled students. To discuss adjustments or to find out more about support and access, you may wish to contact the Disability Service before you apply at: www.bradford.ac.uk/disability/before

Applications are particularly welcomed from adult learners (those aged 21+ at the start of the programme), armed forces families, carers and care leavers, estranged or orphaned learners, refugees and asylum seekers, and Romani or Traveller families. Offers can be made at 104 UCAS points for eligible students. To find out more about the University of Bradford Progression Scheme, visit the webpage: https://www.bradford.ac.uk/applicants/progression-scheme/

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University has procedures to evaluate and recognise this learning in order to provide applicants with exemptions from specified modules or parts of the programme. For more details visit our RPL webpage at: https://www.bradford.ac.uk/teaching-quality/prior-learning/