UNIVERSITY of BRADFORD

Faculty of Life Sciences

# BSc (Hons) Forensic Science Programme Specification

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|---|---|
| Academic Year: | **2020/21** |
| Degree Awarding Body: | **University of Bradford** |
| Final and interim award(s): | **BSc (Honours)** [Framework for Higher Education Qualifications (FHEQ) level 6]<br>**BSc** [Framework for Higher Education Qualifications (FHEQ) level 6]<br>**Diploma of Higher Education** [Framework for Higher Education Qualifications (FHEQ) level 5]<br>**Certificate of Higher Education** [Framework for Higher Education Qualifications (FHEQ) level 4] |
| Programme accredited by: | The Chartered Society of Forensic Sciences<br>[component standards: IEPE (Interpretation, Evaluation and Presentation of Evidence); LA (Laboratory Analysis)] |
| Programme duration: | 3 or 4 Years Full Time |
| UCAS code: | 3 Year F410<br>4 Year F411 |
| QAA Subject benchmark statement(s): | Forensic Science (2012) |
| Date last confirmed and/or minor modification approved by Faculty Board | October 2020 |

**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

The Programme focuses on the processing and analysis of physical evidence from crime scenes. It emphasises the application of science, and in particular analytical chemistry, and stresses the importance of quality assurance procedures in a forensic setting. A characteristic of Bradford's approach is in the integration of practical skills training within a good theoretical framework – whether in terms of crime scene investigation, the collection, examination and interpretation of physical evidence, laboratory processing and analysis.

This programme of study provides students with a sound knowledge of how scientific techniques can be used within forensic investigations, and allows students to explore a challenging area of applied science. The programme will develop students into a professional with the scientific skills to work within areas such as crime scene investigation, forensic science and related laboratory areas.

Throughout the programme, students will acquire skills that will be useful in whatever profession they choose to follow. These include project and time management, critical review and analytical thinking, presentational 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 either undertake 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.

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 Analytical Centre (including ESEM, FT-Raman, GC-MS). 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.

## Programme Aims

The programme is intended to:

- develop an enthusiasm for forensic science
- provide opportunities for students to develop a systematic knowledge and understanding of the core principles of chemistry, including a core range of chemistry-related practical skills, and appreciate their application to forensic science
- develop the student's ability to think critically and creatively
- develop the student's collaborative and group working skills
- develop wide subject knowledge and understanding, and provide training in discipline skills to enable graduates to pursue further programmes of study or careers in forensic and laboratory sciences, crime scene investigation or related practice
- enable the student to become an autonomous learner and prepare the student for the lifelong learning skills required to be adaptable over the course of the student's career
- provide the student with the opportunity to enhance their learning, professional and scientific skills by applying knowledge and understanding in employment through a sandwich placement year or to study abroad (4 year programme)

## Programme Learning Outcomes

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

PLO 1 Demonstrate a knowledge of a range of organic and inorganic materials

PLO 2 Apply basic core practical chemistry and forensic skills

PLO 3 Recall a range of methods of forensic enquiry and recognise the importance of rigorous scientific process

PLO 4 Assess methods of scientific investigation in a forensic context

PLO 5 Manage time and learning effectively both independently and when working as part of a group

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

PLO 6 Employ appropriate numerical and statistical techniques, scientific formulae and calculations

PLO 7 Assess and apply a range of forensic and chemical methods within different contexts

PLO 8 Apply forensic examination techniques to a variety of physical evidence

PLO 9 Undertake critical thinking and data evaluation within a range of chemical and forensic scenarios

PLO 10 Interpret data derived from laboratory observations and measurements in terms of their significance and the theory underlying them

PLO 11 Apply different methods for the identification and characterisation of materials of forensic interest

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

PLO 12 Critically evaluate the importance and function of quality assurance and employ it within forensic contexts

PLO 13 Critically evaluate forensic recording protocols and defend a witness statement

PLO 14 Critically evaluate forensic evidence and its shortcomings in miscarriages of justice

PLO 15 Undertake critical thinking and data evaluation

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

PLO 16 Plan and undertake a substantial piece of independent research

PLO 17 Present written and oral evidence in a professional manner

## Curriculum

### Stage 1

| FHEQ Level | Module Title | Type | Credits | Study Period | Module Code |
|---|---|---|---|---|---|
| 4 | Independent Study for Forensic Scientists | Core | 20 | 1&2 | ARC4014-B |
| 4 | Principles of Forensic and Crime Scene Investigation | Core | 20 | 1&2 | ARC4016-B |
| 4 | Organic Chemistry 1 | Core | 20 | 1&2 | CFS4023-B |
| 4 | Inorganic Chemistry 1 | Core | 20 | 1&2 | CFS4022-B |
| 4 | Practical Chemistry for Forensic Scientists 1 | Core | 40 | 1&2 | ARC4023-D |

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 | Credits | Study Period | Module Code |
|---|---|---|---|---|---|
| 5 | Forensic Examination and Analysis of Physical Evidence | Core | 20 | 1&2 | ARC5020-B |
| 5 | Statistics and Databases for Forensic Scientists | Core | 20 | 1&2 | ARC5022-B |
| 5 | Organic Chemistry 2 | Core | 20 | 1&2 | CFS5017-B |
| 5 | Inorganic Chemistry 2 | Core | 20 | 1&2 | CFS5016-B |
| 5 | Practical Chemistry for Forensic Scientists 2 | Core | 40 | 1&2 | ARC5023-D |

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.

### Stage 3

| FHEQ Level | Module Title | Type | Credits | Study Period | Module Code |
|---|---|---|---|---|---|
| 6 | Interpretation and Presentation of Forensic Evidence for Forensic Science | Core | 20 | 1&2 | ARC6024-B |
| 6 | Dissertation | Core | 40 | 1&2 | ARC6025-D |
| 6 | Forensic Enquiry and Critical Case Study | Core | 20 | 1&2 | ARC6035-B |
| 6 | Analysis of Controlled Substances | Core | 20 | 1&2 | ARC6027-B |
| 6 | Forensic Archaeology | Option | 20 | 1 | ARC6017-B |
| 6 | Forensic Anthropology | Option | 20 | 1 | ARC6011-B |
| 6 | Forensic Taphonomy | Option | 20 | 2 | ARC6013-B |
| | Elective | Elective | 20 | | |

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 or Study Abroad (4-year programme)

This programme provides the option for students to undertake a work placement or period of study abroad between Stages 2 and 3. Students wishing to take this option will be registered for the 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.

| FHEQ Level | Module Title | Type | Study Period | Module Code |
|---|---|---|---|---|
| 5 | Placement | Option | Between stages 2&3 | ARC5013-Z |
| 5 | Study Abroad Experience | Option | Between stages 2&3 | ARC5014-Z |

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

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

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

## Learning and Teaching Strategy

The programme articulates with the Teaching and Learning strategies of the University. Students 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, students will develop the attributes needed for life-long learning and continuing professional development.

Learning outcomes 1-17, will be developed in a number of modules, through a mix of lectures, seminars, laboratory practicals, 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 16 and 17.

## Assessment Strategy

The assessment strategy is designed to support the learning outcomes of the BSc Forensic Science and to assess the student's knowledge and understanding of core forensic principles and chemistry. A wide range of formative and summative assessment methods are used, including essays, worksheets, laboratory reports, reflective journals and examinations, to help the student to develop a wide range of subject specific, personal transferable and professional skills.

Assessments have been designed to allow the student to demonstrate achievement of the learning outcomes of an individual module appropriate to the level of study and the learning outcomes of the programme. A wide range of formative and summative assessment methods are used, including 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). The student will develop professional skills and personal development through the production of a CV, covering letter and skills audit. The research design and dissertation develops the student's ability to undertake independent research and plan this research effectively.

## Assessment Regulations

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

However, there is 1 exception to these regulations as listed below:

- Students will forfeit the right to supplementary assessment for Practical Chemistry for Forensic Scientists 1 and Practical Chemistry for Forensic Scientists 2 in Stages 1 and 2 of the Programme. Students who at initial attempt do not achieve 35.0% or more in the above modules will be required to repeat the modules with attendance.

## 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.

The minimum entry requirements for the programme are as follows: GCSE English, Mathematics and Science at grade C (level 4) or above. In addition, students whose first language is not English must have a Minimum IELTS of level 6.0, with no sub-test less than 5.0, or the equivalent.

A typical offer to someone seeking entry through the UCAS scheme would be 112 UCAS points (old tariff: 280 points), to include A-level Chemistry. Details of other acceptable qualifications are given here: https://www.bradford.ac.uk/courses/ug/forensic-science-bsc

**Please note:** This link provides admission information relevant to the current recruitment cycle and therefore may be different to when this document was originally published.

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

### Recognition of Prior Learning

Applications are welcome from students with non-standard qualifications or mature students (those over 21 years of age on entry) with significant relevant experience.

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.

## Minor Modification Schedule

| Version Number | Brief description of Modification | Date of Approval (Faculty Board) |
|---|---|---|
| 2 | ARC6026-B replaced by ARC6035-B | January 2020 |
| 3 | Specification reformatted and made accessible | November 2020 |