UNIVERSITY OF LINCOLN

Programme Specification

Title:

Forensic Science

Final Award: **Bachelor of Science with Honours (BSc (Hons))**

With Exit Awards at:
Certificate of Higher Education (CertHE)
Diploma of Higher Education (DipHE)
Bachelor of Science with Honours (BSc (Hons))

To be delivered from: 17 Sep 2017

Level	Date
Level 1 or Certificate of Higher Education (CertHE)	2019-20
Level 2 or Diploma of Higher Education (DipHE)	2020-21
Level 3 or Bachelor of Science with Honours (BSc (Hons))	2021-22

Table Of Contents

1. Introduction

This document describes one of the University of Lincoln's programmes using the protocols required by the UK National Qualifications Framework as defined in the publication *QAA guidelines for preparing programme specifications*.

This programme operates under the policy and regulatory frameworks of the University of Lincoln.

2. Basic Programme Data

Final Award:	Bachelor of Science with Honours (BSc (Hons))
Programme Title:	Forensic Science
Exit Awards and Titles	Certificate of Higher Education (CertHE) Diploma of Higher Education (DipHE) Bachelor of Science with Honours (BSc (Hons))
Subject(s)	Forensic Science
Mode(s) of delivery	Full Time Part Time
Is there a Placement or Exchange?	No
UCAS code	F410
Awarding Body	University of Lincoln
Campus(es)	Lincoln Campus
School(s)	School of Chemistry
Programme Leader	Ruth Croxton (Rcroxton)
Relevant Subject Benchmark Statements	
Professional, Statutory or Regulatory Body Accreditation	The Chartered Society of Forensic Sciences
Programme Start Date	2019-20

3. Programme Description

3.1 Overview

The BSc (Hons) Forensic Science programme provides an intellectually challenging study of a full range of forensic applications. It fulfils the demand for expertise in investigatory, enforcement and monitoring work, including: incident scene investigation; physical evidence collection; laboratory analysis of evidence; and defence of testimony. The content of the programme currently satisfies the requirements for full accreditation by The Chartered Society of Forensic Sciences in the 3 standards of Interpretation, Evaluation and Presentation of Evidence, Crime Scene Investigation and Laboratory Analysis.

The forensic science curriculum at Lincoln integrates the fundamental underpinning biological and analytical sciences and their applications to forensic and crime scene sciences. The programme gives students access to specialist laboratories with industry-standard equipment for learning and research, as well as crime scene facilities including a scene of crime house. Links are maintained with the police, consultants and private sector laboratories. Forensic professional practice and employability are embedded within the programme to provide highly employable graduates.

3.2 Aims and Objectives

BSc (Hons) Forensic Science aims to provide students with:
1. a stimulating and supportive learning environment that inspires students and instills within them an enthusiasm to study the forensic sciences
2. a range of skills relating to professional practice in forensic science that are relevant both to forensic science and other graduate-level employment
3. skills in reconstructing events surrounding an incident;
4. an awareness of the protocols for securing and recording the incident scene and the collection of trace and physical evidence;
5. skills and experience of laboratory analysis of physical and trace evidence;
6. the ability to generate, record, collate and interpret scientific data in the laboratory;
7. an understanding of presentation of expert testimony and the role of the expert witness;
8. the ability to think analytically and independently;
9. knowledge of judicial processes and legal constraints in the presentation of evidence and reconstructions.

BSc (Hons) Forensic Science at the University of Lincoln is distinctive in that it:
1. ensures that students become competent in both crime scene investigation and laboratory analyses;
2. provides students with a strong core science base and good ‘hands-on’ experience of a range of instrumental analytical techniques;
3. provides students with an opportunity to gain experience of anthropological techniques in forensic contexts, including aspects of anatomical analysis;
4. develops students understanding of procedures and protocols for investigating explosions and fires;
5. teaches identification of individual trace biological molecules.

3.3 Variations to Standard Regulations and Guidance

None

4. Programme Outcomes

Programme-level learning outcomes are identified below.

Refer to *Appendix I – Curriculum Map* for details of how outcomes are deployed across the programme.

4.1 Knowledge and Understanding

On successful completion of this programme a student will have knowledge and understanding of:

1 The relevant science necessary to underpin the forensic science covered in the programme

2 Accurate procedures for systematic search and sampling at locations for blood, glass, fingermarks, tyre prints, hair, fibres, paint, drugs, ignitable liquid residues

3 Ante- and post-mortem physiology and use information to propose a time and duration of the death period

4 The principles that determine the three-dimensional structure of biological macromolecules and be able to explain in detail, using examples, how structure enables the molecule to function

5 The toxicological effects of named toxins including controlled drugs

6 The complexity of organisms, including their genetics, form and function and the inter-relationships between them and their environment

7 The chemistry of biological molecules including DNA, and their value and limitations as a forensic tool, describe DNA profiling and carry out DNA analysis

8 Skeletal remains showing evidence of sex, age, trauma and key facial characteristics

9 Judicial processes including the rules of evidence, and determine the weight and persuasiveness of specific evidence

10 The principles and procedures used in chemical analysis and apply this to the solution of qualitative and quantitative problems of a familiar and unfamiliar nature

11 Good practice and quality assurance in the forensic laboratory

4.2 Subject Specific Intellectual Skills

On successful completion of this programme a student will be able to:

12 Analyse and interpret information when reconstructing events and testing hypotheses

13 Construct reasoned arguments to support their position on the ethical and social impacts of advances in forensically relevant sciences

14 Access and evaluate scientific information from a variety of sources, including databases, and to communicate the material, findings and arguments in a variety of forms, including oral and written, in a way that is well organised, topical and recognises the limitations of current hypotheses

15 Select and evaluate suitable methods for the investigation of relevant areas of analysis of biochemistry and molecular biology, trace organics and trace inorganics, in the context of a forensic case

16 Plan, execute and present an independent piece of work (e.g. a project), in which qualities, such as time management, problem solving and independence, are evident, as well as interpretation and critical awareness of the quality of the evidence

4.3 Subject Specific Practical Skills

On successful completion of this programme a student will be able to:

17 Demonstrate skills in a range of laboratory and field techniques and recognise and apply the principles of crime scene and forensic investigation

18 Undertake field and/or laboratory investigations in a responsible and safe manner demonstrating adherence to safe working practices either working independently or within a group

19 Carry out documented laboratory procedures and standard operating procedures involved in forensic and analytical work in relation to a range of evidence types.

20 Be aware of the roles, responsibilities and liabilities of all personnel involved in the processing of a crime scene

21 Record observations and experimentation in a logical, comprehensive and contemporaneous manner, taking account of the requirement to establish continuity of evidence and conformation to any quality assurance programme including for avoidance of contamination

22 Recognise the professional, moral and ethical standards required for forensic casework including the role of the expert witness in criminal investigations

4.4 Transferable Skills and Attributes

On successful completion of this programme a student will be able to:

23 Solve qualitative and quantitative problems

24 Apply numeracy and mathematics to a wide range of situations including abstract application of simple mathematical problems, statistical analysis, correct use of units and modes of data presentation

25 Communicate their subject appropriately to a variety of audiences using a range of formats (including written and oral) and approaches e.g. in the court room

26 Receive and respond to a variety of sources of information; textual, numerical, verbal and graphical e.g. crime scene processing

27 Use information retrieval, in relation to primary and secondary information sources, including online computer searches and to cite and reference work in an appropriate manner

28 Use a range of IT hardware and software for a variety of generic and forensic science specific applications

29 Interact with other people and work as a member of a team, recognising and respecting the views, opinions and roles of other members of the team; reflect upon and evaluate own performance as an individual and a team member

30 Demonstrate time management and organisational skills, as evidenced by the ability to plan and implement efficient and effective modes of working

31 Identify and develop an adaptable, flexible and effective approach to study and work and

develop the skills necessary for self-management and life-long learning (e.g. working independently)

32 Develop confidence and self-awareness and ability to evaluate own strengths and weaknesses in the context of particular career choices

For details of each module contributing to the programme, please consult the module specification document.

5. Learning, Teaching and Assessment Strategies

5.1. Learning and Teaching Strategy

The teaching and learning strategy adopted within BSc (Hons) Forensic Science derives from the programme outcomes. The strategy is based on laboratory practicals, case studies and field work and encourages students to develop both the subject specific skills and the interpersonal skills which are recognised as the foundation of delivery of a professional approach to forensic science. The programme is based upon an integration of the curriculum through four main components: biological sciences, analytical sciences, crime scene science and professional practice.

Module descriptors, identifying learning methods, content and assessment, are contained in a student handbook which is distributed to each student at the commencement of the first academic year and supplemented in subsequent years.

The teaching and learning strategy adopted within the BSc (Hons) Forensic Science is in accordance with the University's stated mission and the objectives of the programme. This mission provides for an educational environment dedicated to lifelong learning, and the employability of its graduates. Our aim is to develop a confident as well as a knowledgeable graduate. Hence, the teaching, learning and assessment are progressive throughout the programme to encourage transition from dependent into independent learning so that the students become increasingly responsible for their own learning as the programme advances. The programme embeds and emphasises forensic professional practice and employability to better support and develop our students for the graduate science job market. The section below indicates how the programme embraces a range of approaches to enhance the students' experience, learning, knowledge, skills development and subsequently employability.

Problem–based and enquiry-based learning (PBL and EBL):
Problem solving and enquiry-based learning are core to the teaching, learning and assessment strategy. Students will encounter a variety of problem types including those of a familiar and unfamiliar nature. They will have a range of opportunities to research topics and to develop their skills in enquiry and critique. At level 1, students will have the opportunity to either singly or in groups research problems/case studies and present their findings. Presentation may be via PowerPoint, poster or they may write an individual report. Module staff will provide guidance and support. This will be further developed at level 2 with more emphasis on individual presentations and reports and more challenging problems. At level 3 the students will work more autonomously, which may include negotiating topics with module staff that are relevant to the content, and present their findings in written and oral format.

Research–based learning (RBL):
Students will develop a diverse range of research skills through the programme which will lead to the opportunity at level 3 to undertake a research project. At levels 1 and 2, students will learn research skills in terms of data collection and analysis. They will also discuss ethical issues and governance of research. They will learning how to find, read and critique primary literature. Assessments for level 1 and 2 modules will develop skills in literature review and the generation, interpretation and presentation of laboratory data. They will be directed to additional support in the library and maths/stats support centre. At level 3, students will undertake a research project where they work with an academic supervisor and technical support usually to generate primary data. In all cases students will carry out individual analysis of either primary or secondary data and present their findings. Academic staff will use their research experience to inform their teaching, particularly at level 3.

Technology in Teaching - Digital Scholarship:
Technology will be at the forefront of the student experience. Blackboard will be used to provide module information and teaching material and to engage with students through discussion groups and on-line teaching activities. The teaching team has previously utilised funds to work with students to produce videos that support learning across a range of topics. Similar funding has also been used to develop on-line support for practical activities and JISC funding was used to produce a series of radio programmes and to create open access to level 1 chemistry teaching material. Students will learning how to use a range of software packages and databases relevant to general science and professional practice throughout their programme with the aim of making them job-ready with familiarity and knowledge of current technology-based practice.

Space and spatiality - Learning Landscapes in HE:
The Science Building has well-equipped multi-functional teaching laboratories for analytical and microscopy practical sessions. There is a dedicated microbiology lab on the second floor for category 2 microbiology and molecular biology practical classes. Large laboratories have demonstration facilities with AV systems so that students can be instructed without having to leave their workstations. Organisation of laboratory classes will ensure that demonstrators are available to support small groups of students. Research laboratory and equipment facilities in the Joseph Banks Laboratories will be available for specialist practicals and project work.
The Riseholme campus provides a crime scene house, with CCTV facilities, where simulated crime scenes are provided for students to investigate. The outdoor environment is used for crime scene simulations providing an experience of a range of crime scenes.

Research and Evaluation - Scholarship of Teaching and Learning:
All modules are evaluated using student surveys. Members of the team reflect on student perception and achievement in terms of progress, classifications and employability both formally and informally and adapt practice and modules accordingly. Members of the team engage in research and scholarship in the field and ensure module content is up-to-date with current practice. Guest lectures and specialist teaching is also provided through engagement with the police, consultants and private sector laboratories.

Student Voice - Diversity, Difference and Dissensus:
A number of mechanisms are used to obtain student views about their learning. We currently have a number of mechanisms by which students can make their views heard. Subject committees are an important forum for obtaining feedback through elected student reps and reps are encouraged to work closely with programme teams throughout the academic year to ensure that matters can be addressed in a timely manner. Other mechanisms for obtaining feedback include academic tutor meetings, informal meetings with year tutors, Programme Leader or Head of School, student meetings with external examiners and discussion groups. We encourage students to engage with the course and wider school and university activities.

Support for research-based teaching and learning through expert engagement with information resources:
All students will have the opportunity for a library induction in induction week. The subject librarian has access to several of the blackboard sites including the award sites to facilitate communication with students. Library workshops and updates are posted on these sites and students are encouraged by staff to engage with workshops in the library.

Creating the future - employability, enterprise, postgraduate, beyond employability:

Employability is an integral part of the curriculum. Professional practice provides a vehicle for students to engage and experience a variety of aspects associated with forensic science practice. Professional practice also deals with the practical aspects of skill profiling, personal development, preparing CVs and job applications and developing interview skills. These sessions are delivered in collaboration with the science careers and employability adviser.
In addition, invited speakers and opportunities to network with forensic science alumni broaden the students' knowledge of career opportunities, professional qualifications and postgraduate study.

5.2. Assessment Strategy

The assessment strategy adopted within the BSc (Hons) Forensic Science programme derives from a need to satisfy the following aspects:
1. Performance criteria – the student will be aware of the requirements for assessment;
2. Validity of assessment – the assessment will be specific to the stated learning outcomes in the definitive document;
3. Reliability of assessment – the assessment should achieve the standards for the given level (e.g. analysis, reasoning, synthesis and interpretation); and
4. Time implications.

Assessment is viewed as a component of the teaching and learning process and also as a way in which the student is able to confirm their grasp of the learning outcomes. It is seen, therefore, as having two functions – as well as contributing to summative grading, assessment is seen as having a formative value in providing feedback between students and tutor. Other formative assessment is carried out through the seminars (problem solving) and practical classes (laboratory skills).

Assessment and Feedback - Active Learning in Communities of Practice:
Group work and practical classes are used to encourage active learning. Students may be given a choice of topics or case studies to explore either individually or in groups. They may be linked to assessment using individual and group oral presentations or poster presentations for example. In addition, lab reports, case study reports and project reports are used to assess research skills, critical thinking, data interpretation and presentation and written communication skills. It is intended that self and peer-assessment at level 1 will be used to encourage students to critically evaluate the assessment criteria and share their findings with each other. Development of research skills will be supported by teaching on the professional practice modules and by project supervisors, but students will also be encouraged to make use of support available in the library

Assessment strategy:
Details of the module assessment strategy are included with each module specification. Information given here provides an overview of the strategy that has guided the course management team's approach to assessment in each pathway. Of primary importance is the link between the module learning outcomes and the way in which the overall learning on each module is assessed. Assessments will relate directly to the module learning outcomes. Where appropriate each assessment may incorporate more than one learning outcome.

It is intended that the assessments at each level of the programme reflect change in demands upon the student over the three years as they grow in knowledge and skill. Assessments aim at informing the teaching staff on the student progress, acquired academic knowledge and understanding, subject specific and transferable skills and attributes. Modules may be assessed by essay, assignment, individual or group presentation, laboratory reports, professional reports and statements of witness,

as well as unseen examination. The research project is assessed by a presentation and report.

Assessment tasks provide:
• A means of judging the performance of the student in achieving the learning outcomes of each module.
• Feedback to the student on performance

The assessment of each module is monitored by the course team to ensure the following:
1. Appropriate performance criteria.
2. Reasonable time required for the assessment task
3. Reliable and valid assessment marking through internal moderation

In addition to summative assessments, formative assessment may be included to inform students about their progress during the course of the delivery of modules. This may include practical report writing, seminar presentations, class tests and on-line assessments.

The membership and terms of the Board of Examiners and the responsibilities of the external examiners are set out in the University Taught Undergraduate Awards: Principles and Regulations. The Progress Panel normally convenes in February, and the Subject Board of Examiners convenes in June and September of each year to facilitate progression of students and the confirmation of awards.

The BSc (Hons) Forensic Science degree programme is operated according to the University of Lincoln Regulations and Progression regulations as enclosed in appendix VIII.

Details of module assessment strategy are included with each module specification.

6. Programme Structure

The total number of credit points required for the achievement of Certificate of Higher Education (CertHE) is 120.
The total number of credit points required for the achievement of Diploma of Higher Education (DipHE) is 240.
The total number of credit points required for the achievement of Bachelor of Science with Honours (BSc (Hons)) is 360.

Level 1

Title	Credit Rating	Core / Optional
Integrative Biochemistry 2019-20	15	Core
Crime Scene Investigation 2019-20	15	Core
Analytical Chemistry 1: Molecular Techniques 2019-20	15	Core
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20	15	Core
Professional Practice 1.1: Crime Scene to Court 2019-20	15	Core
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20	15	Core
Cell Biology 2019-20	15	Core
Genetics 2019-20	15	Core

Level 2

Title	Credit Rating	Core / Optional
Advanced Crime Scene Investigation 2020-21	15	Core
Trace Evidence 2020-21	15	Core
Molecular Biology 2020-21	15	Core
Professional Practice 2.1: Scientific Experimental Design 2020-21	15	Core
Human Identification 2020-21	15	Core
Analytical Chemistry 2.1: Separation Techniques 2020-21	15	Core
Analytical Chemistry 2.2: Structural Techniques 2020-21	15	Core
Professional Practice 2.2: Quality Assurance and Regulation 2020-21	15	Core

Level 3

Title	Credit Rating	Core / Optional
Overseas Field Course (Forensic) 2021-22	15	Optional
Forensic Application of Biological Specialisms 2021-22	30	Core
Drugs of Abuse and Forensic Toxicology 2021-22	15	Core
Fire, Explosives and Nuclear Forensics 2021-22	15	Core
Public Understanding of Forensic Science 2021-22	15	Optional
Professional Practice 3: Presentation of Evidence 2021-22	15	Core
Research Project 2021-22	30	Core

Appendix I - Curriculum Map

This table indicates which modules assume responsibility for delivering and ordering particular programme learning outcomes.

Key: ✓ Delivered and Assessed Delivered ✓ Assessed

Level 1

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Analytical Chemistry 1: Molecular Techniques 2019-20	✓									✓	✓	
Cell Biology 2019-20	✓					✓						
Crime Scene Investigation 2019-20		✓										✓
Genetics 2019-20	✓					✓						
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20	✓		✓									
Integrative Biochemistry 2019-20	✓			✓			✓					
Professional Practice 1.1: Crime Scene to Court 2019-20	✓								✓			
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20	✓										✓	

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24
Analytical Chemistry 1: Molecular Techniques 2019-20		✓		✓	✓	✓	✓		✓		✓	✓
Cell Biology 2019-20		✓									✓	✓
Crime Scene Investigation 2019-20					✓	✓		✓	✓			
Genetics 2019-20											✓	
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20												
Integrative Biochemistry 2019-20						✓					✓	✓
Professional Practice 1.1: Crime Scene to										✓	✓	✓

Court 2019-20												
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20					✓	✓	✓		✓		✓	✓

	PO25	PO26	PO27	PO28	PO29	PO30	PO31	PO32
Analytical Chemistry 1: Molecular Techniques 2019-20	✓	✓				✓		
Cell Biology 2019-20	✓	✓						
Crime Scene Investigation 2019-20	✓	✓			✓			
Genetics 2019-20		✓						
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20	✓	✓	✓					
Integrative Biochemistry 2019-20		✓						
Professional Practice 1.1: Crime Scene to Court 2019-20	✓	✓		✓				
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20	✓	✓						

Level 2

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Advanced Crime Scene Investigation 2020-21		✓	✓									✓
Analytical Chemistry 2.1: Separation Techniques 2020-21	✓									✓		✓
Analytical Chemistry 2.2: Structural Techniques 2020-21	✓									✓		✓
Human Identification 2020-21	✓		✓	✓		✓	✓	✓				
Molecular Biology 2020-21	✓					✓	✓					
Professional Practice 2.1: Scientific Experimental Design 2020-21	✓											✓
Professional Practice 2.2: Quality Assurance and Regulation 2020-21	✓										✓	
Trace Evidence 2020-21	✓	✓							✓	✓		✓

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24

Advanced Crime Scene Investigation 2020-21					✓	✓		✓	✓			
Analytical Chemistry 2.1: Separation Techniques 2020-21		✓					✓		✓		✓	✓
Analytical Chemistry 2.2: Structural Techniques 2020-21		✓	✓				✓				✓	✓
Human Identification 2020-21		✓			✓						✓	
Molecular Biology 2020-21					✓						✓	
Professional Practice 2.1: Scientific Experimental Design 2020-21											✓	✓
Professional Practice 2.2: Quality Assurance and Regulation 2020-21		✓									✓	✓
Trace Evidence 2020-21			✓								✓	✓

	PO25	PO26	PO27	PO28	PO29	PO30	PO31	PO32
Advanced Crime Scene Investigation 2020-21		✓			✓	✓		
Analytical Chemistry 2.1: Separation Techniques 2020-21	✓	✓	✓					
Analytical Chemistry 2.2: Structural Techniques 2020-21	✓	✓	✓	✓				
Human Identification 2020-21								
Molecular Biology 2020-21		✓						
Professional Practice 2.1: Scientific Experimental Design 2020-21							✓	✓
Professional Practice 2.2: Quality Assurance and Regulation 2020-21			✓					
Trace Evidence 2020-21	✓	✓						

Level 3

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Drugs of Abuse and Forensic Toxicology 2021-22	✓	✓	✓	✓	✓				✓	✓	✓	✓
Fire, Explosives and Nuclear Forensics 2021-22	✓	✓										
Forensic Application of Biological Specialisms	✓					✓	✓	✓				✓

2021-22												
Overseas Field Course (Forensic) 2021-22												
Professional Practice 3: Presentation of Evidence 2021-22									✓			
Public Understanding of Forensic Science 2021-22												✓
Research Project 2021-22												

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22	PO23	PO24
Drugs of Abuse and Forensic Toxicology 2021-22		✓	✓		✓			✓		✓	✓	✓
Fire, Explosives and Nuclear Forensics 2021-22		✓										
Forensic Application of Biological Specialisms 2021-22	✓		✓									
Overseas Field Course (Forensic) 2021-22												
Professional Practice 3: Presentation of Evidence 2021-22		✓		✓						✓		
Public Understanding of Forensic Science 2021-22	✓			✓							✓	
Research Project 2021-22		✓		✓		✓			✓		✓	✓

	PO25	PO26	PO27	PO28	PO29	PO30	PO31	PO32
Drugs of Abuse and Forensic Toxicology 2021-22	✓	✓	✓					
Fire, Explosives and Nuclear Forensics 2021-22		✓						
Forensic Application of Biological Specialisms 2021-22								
Overseas Field Course (Forensic) 2021-22	✓							✓
Professional Practice 3: Presentation of Evidence 2021-22	✓		✓			✓	✓	
Public Understanding of Forensic Science 2021-22	✓	✓			✓	✓		✓
Research Project 2021-22	✓	✓	✓			✓	✓	✓

Appendix II - Assessment Map

This table indicates the spread of assessment activity across the programme. Percentages indicate assessment weighting.

Level 1

	01	02	03	04	05	06	07	08	09	10	11	12
Analytical Chemistry 1: Molecular Techniques 2019-20												
Cell Biology 2019-20									50			
Crime Scene Investigation 2019-20												
Genetics 2019-20												
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20											30	
Integrative Biochemistry 2019-20								50				
Professional Practice 1.1: Crime Scene to Court 2019-20					50							
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20												

	13	14	15	16	17	18	19	20	21	22	23	24
Analytical Chemistry 1: Molecular Techniques 2019-20												
Cell Biology 2019-20		50										
Crime Scene Investigation 2019-20												50
Genetics 2019-20												50
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20				70								
Integrative Biochemistry 2019-20		50										
Professional Practice 1.1: Crime Scene to Court 2019-20												
Professional Practice 1.2: Forensic												

Laboratory Analysis 2019-20												
	25	26	27	28	29	30	31	32	33	34	35	36
Analytical Chemistry 1: Molecular Techniques 2019-20			50									
Cell Biology 2019-20												
Crime Scene Investigation 2019-20		50										
Genetics 2019-20										50		
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20												
Integrative Biochemistry 2019-20												
Professional Practice 1.1: Crime Scene to Court 2019-20												
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20						50						
	37	38	39	40	41	42	43	44	45	46	47	48
Analytical Chemistry 1: Molecular Techniques 2019-20												
Cell Biology 2019-20												
Crime Scene Investigation 2019-20												
Genetics 2019-20												
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20												
Integrative Biochemistry 2019-20												
Professional Practice 1.1: Crime Scene to Court 2019-20												
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20												
							49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33,

							34, 35)
Analytical Chemistry 1: Molecular Techniques 2019-20							50
Cell Biology 2019-20							
Crime Scene Investigation 2019-20							
Genetics 2019-20							
Human Anatomy & Physiology, with Clinical Correlations 1 2019-20							
Integrative Biochemistry 2019-20							
Professional Practice 1.1: Crime Scene to Court 2019-20					50		
Professional Practice 1.2: Forensic Laboratory Analysis 2019-20							50

Level 2

	01	02	03	04	05	06	07	08	09	10	11	12
Advanced Crime Scene Investigation 2020-21												
Analytical Chemistry 2.1: Separation Techniques 2020-21												50
Analytical Chemistry 2.2: Structural Techniques 2020-21												
Human Identification 2020-21												
Molecular Biology 2020-21							50					
Professional Practice 2.1: Scientific Experimental Design 2020-21										50		
Professional Practice 2.2: Quality Assurance and Regulation 2020-21												
Trace Evidence 2020-21									50			

	13	14	15	16	17	18	19	20	21	22	23	24
Advanced Crime Scene Investigation 2020-21											50	50
Analytical Chemistry 2.1: Separation Techniques 2020-21												

Analytical Chemistry 2.2: Structural Techniques 2020-21												
Human Identification 2020-21												
Molecular Biology 2020-21												
Professional Practice 2.1: Scientific Experimental Design 2020-21												
Professional Practice 2.2: Quality Assurance and Regulation 2020-21												
Trace Evidence 2020-21		50										

	25	26	27	28	29	30	31	32	33	34	35	36
Advanced Crime Scene Investigation 2020-21												
Analytical Chemistry 2.1: Separation Techniques 2020-21												
Analytical Chemistry 2.2: Structural Techniques 2020-21				50								
Human Identification 2020-21						50		50				
Molecular Biology 2020-21												
Professional Practice 2.1: Scientific Experimental Design 2020-21												
Professional Practice 2.2: Quality Assurance and Regulation 2020-21		50										
Trace Evidence 2020-21												

	37	38	39	40	41	42	43	44	45	46	47	48
Advanced Crime Scene Investigation 2020-21												
Analytical Chemistry 2.1: Separation Techniques 2020-21												
Analytical Chemistry 2.2: Structural Techniques 2020-21												
Human Identification 2020-21												
Molecular Biology 2020-21												
Professional Practice 2.1: Scientific												

Experimental Design 2020-21												
Professional Practice 2.2: Quality Assurance and Regulation 2020-21												
Trace Evidence 2020-21												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Advanced Crime Scene Investigation 2020-21						
Analytical Chemistry 2.1: Separation Techniques 2020-21					50	
Analytical Chemistry 2.2: Structural Techniques 2020-21						50
Human Identification 2020-21						
Molecular Biology 2020-21					50	
Professional Practice 2.1: Scientific Experimental Design 2020-21					50	
Professional Practice 2.2: Quality Assurance and Regulation 2020-21						50
Trace Evidence 2020-21						

Level 3

	01	02	03	04	05	06	07	08	09	10	11	12
Drugs of Abuse and Forensic Toxicology 2021-22								50				
Fire, Explosives and Nuclear Forensics 2021-22												
Forensic Application of Biological Specialisms 2021-22												
Overseas Field Course (Forensic) 2021-22												
Professional Practice 3: Presentation of Evidence 2021-22												50

Public Understanding of Forensic Science 2021-22												
Research Project 2021-22												

	13	14	15	16	17	18	19	20	21	22	23	24
Drugs of Abuse and Forensic Toxicology 2021-22												
Fire, Explosives and Nuclear Forensics 2021-22												
Forensic Application of Biological Specialisms 2021-22					50							
Overseas Field Course (Forensic) 2021-22												
Professional Practice 3: Presentation of Evidence 2021-22					50							
Public Understanding of Forensic Science 2021-22					100							
Research Project 2021-22												

	25	26	27	28	29	30	31	32	33	34	35	36
Drugs of Abuse and Forensic Toxicology 2021-22												
Fire, Explosives and Nuclear Forensics 2021-22												
Forensic Application of Biological Specialisms 2021-22												
Overseas Field Course (Forensic) 2021-22								100				
Professional Practice 3: Presentation of Evidence 2021-22												
Public Understanding of Forensic Science 2021-22												
Research Project 2021-22		80						20				

	37	38	39	40	41	42	43	44	45	46	47	48

Drugs of Abuse and Forensic Toxicology 2021-22												
Fire, Explosives and Nuclear Forensics 2021-22												
Forensic Application of Biological Specialisms 2021-22												
Overseas Field Course (Forensic) 2021-22												
Professional Practice 3: Presentation of Evidence 2021-22												
Public Understanding of Forensic Science 2021-22												
Research Project 2021-22												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Drugs of Abuse and Forensic Toxicology 2021-22					50	
Fire, Explosives and Nuclear Forensics 2021-22						100
Forensic Application of Biological Specialisms 2021-22						50
Overseas Field Course (Forensic) 2021-22						
Professional Practice 3: Presentation of Evidence 2021-22						
Public Understanding of Forensic Science 2021-22						
Research Project 2021-22						

Appendix III - Benchmark Analysis

This table maps programme learning outcomes to relevant QAA subject benchmark statements or PSRB guidelines.

Knowledge and Understanding

	FSci01	FSci02	FSci03	FSci04	FSci05	FSci06	FSci07	FSci08	FSci09
PO1	✓			✓		✓			
PO2		✓	✓	✓	✓				
PO3	✓	✓							
PO4	✓								
PO5	✓								
PO6	✓								
PO7	✓								
PO8	✓	✓							
PO9					✓		✓		
PO10	✓					✓			
PO11		✓	✓	✓					

	FSci10	FSci11	FSci12	FSci13	FSci14	FSci15	FSci16	FSci17	FSci18
PO1						✓			✓
PO2			✓				✓	✓	✓
PO3						✓	✓		
PO4			✓			✓			
PO5						✓			
PO6			✓			✓			
PO7			✓			✓			
PO8						✓	✓		
PO9									
PO10						✓			
PO11					✓		✓	✓	✓

	FSci19	FSci20	FSci21	FSci22	FSci23	FSci24	FSci25	FSci26	FSci27
PO1		✓							
PO2	✓							✓	
PO3									
PO4								✓	
PO5									
PO6								✓	
PO7								✓	
PO8									
PO9	✓		✓						
PO10		✓							
PO11									

	FSci28	FSci29	FSci30	FSci31	FSci32	FSci33	FSci34	FSci35	FSci36
PO1									
PO2		✓				✓			
PO3									
PO4									
PO5									
PO6									
PO7									
PO8									
PO9									
PO10									
PO11	✓								

	FSci37	FSci38	FSci39	FSci40	FSci41	FSci42	FSci43	FSci44	FSci45
PO1	✓				✓				
PO2		✓				✓			
PO3		✓				✓			
PO4		✓				✓			
PO5									
PO6									

PO7	✓	✓			✓	✓			
PO8		✓				✓			
PO9									
PO10	✓	✓			✓	✓			
PO11									

	FSci46	FSci47	FSci48	FSci49	FSci50	FSci51	FSci52	FSci53	FSci54
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									
PO8									
PO9									
PO10									
PO11									

	FSci55	FSci56	FSci57	FSci58	FSci59	FSci60	FSci61	FSci62
PO1								
PO2								
PO3								
PO4								
PO5								
PO6								
PO7								
PO8								
PO9								
PO10								
PO11								

Subject Specific Intellectual Skills

	FSci01	FSci02	FSci03	FSci04	FSci05	FSci06	FSci07	FSci08	FSci09
PO12						✓		✓	
PO13									✓
PO14	✓					✓		✓	✓
PO15				✓	✓				
PO16				✓		✓		✓	✓

	FSci10	FSci11	FSci12	FSci13	FSci14	FSci15	FSci16	FSci17	FSci18
PO12									
PO13		✓	✓						
PO14	✓					✓			
PO15			✓						✓
PO16				✓	✓				✓

	FSci19	FSci20	FSci21	FSci22	FSci23	FSci24	FSci25	FSci26	FSci27
PO12		✓		✓					
PO13					✓		✓	✓	
PO14		✓		✓	✓				
PO15	✓							✓	
PO16		✓		✓	✓				✓

	FSci28	FSci29	FSci30	FSci31	FSci32	FSci33	FSci34	FSci35	FSci36
PO12		✓		✓		✓		✓	
PO13									
PO14					✓				✓
PO15									
PO16	✓								

	FSci37	FSci38	FSci39	FSci40	FSci41	FSci42	FSci43	FSci44	FSci45
PO12									✓

PO13									
PO14				✓				✓	✓
PO15	✓	✓			✓	✓			
PO16	✓			✓	✓			✓	✓

	FSci46	FSci47	FSci48	FSci49	FSci50	FSci51	FSci52	FSci53	FSci54
PO12		✓		✓		✓			
PO13									
PO14		✓		✓		✓			
PO15									
PO16		✓		✓		✓			

	FSci55	FSci56	FSci57	FSci58	FSci59	FSci60	FSci61	FSci62
PO12								
PO13								
PO14								
PO15								
PO16								

Subject Specific Practical Skills

	FSci01	FSci02	FSci03	FSci04	FSci05	FSci06	FSci07	FSci08	FSci09
PO17		✓	✓	✓	✓				
PO18		✓	✓		✓				
PO19		✓	✓						
PO20					✓		✓		
PO21					✓	✓		✓	
PO22					✓		✓		

	FSci10	FSci11	FSci12	FSci13	FSci14	FSci15	FSci16	FSci17	FSci18
PO17							✓	✓	✓

PO18				✓			✓	✓	
PO19							✓	✓	
PO20									
PO21					✓				
PO22		✓	✓						

	FSci19	FSci20	FSci21	FSci22	FSci23	FSci24	FSci25	FSci26	FSci27
PO17	✓								
PO18									✓
PO19									
PO20	✓		✓						
PO21	✓	✓		✓					
PO22	✓		✓				✓	✓	

	FSci28	FSci29	FSci30	FSci31	FSci32	FSci33	FSci34	FSci35	FSci36
PO17		✓				✓			
PO18		✓				✓			
PO19		✓	✓			✓	✓		
PO20									
PO21	✓	✓				✓			
PO22			✓				✓		

	FSci37	FSci38	FSci39	FSci40	FSci41	FSci42	FSci43	FSci44	FSci45
PO17	✓	✓			✓	✓			
PO18		✓	✓			✓	✓		
PO19		✓				✓			
PO20									
PO21			✓				✓		
PO22									

	FSci46	FSci47	FSci48	FSci49	FSci50	FSci51	FSci52	FSci53	FSci54
PO17									
PO18									

PO19									
PO20									
PO21	✓				✓				
PO22			✓				✓		

	FSci55	FSci56	FSci57	FSci58	FSci59	FSci60	FSci61	FSci62
PO17								
PO18								
PO19								
PO20								
PO21								
PO22								

Transferable Skills and Attributes

	FSci01	FSci02	FSci03	FSci04	FSci05	FSci06	FSci07	FSci08	FSci09
PO23	✓								
PO24	✓								
PO25								✓	
PO26						✓		✓	
PO27									✓
PO28									
PO29									
PO30									
PO31									
PO32									

	FSci10	FSci11	FSci12	FSci13	FSci14	FSci15	FSci16	FSci17	FSci18
PO23						✓			
PO24						✓			
PO25									

PO26									
PO27	✓								
PO28									
PO29									
PO30	✓								
PO31	✓								
PO32	✓								

	FSci19	FSci20	FSci21	FSci22	FSci23	FSci24	FSci25	FSci26	FSci27
PO23									
PO24									
PO25				✓					
PO26		✓		✓					
PO27					✓				
PO28									
PO29									
PO30									
PO31						✓		✓	
PO32						✓			

	FSci28	FSci29	FSci30	FSci31	FSci32	FSci33	FSci34	FSci35	FSci36
PO23									
PO24									
PO25					✓				✓
PO26					✓			✓	✓
PO27									
PO28									
PO29			✓				✓		
PO30			✓				✓		
PO31									
PO32									

	FSci37	FSci38	FSci39	FSci40	FSci41	FSci42	FSci43	FSci44	FSci45

PO23									
PO24									
PO25				✓				✓	✓
PO26				✓				✓	
PO27									
PO28									
PO29									
PO30									
PO31									
PO32									

	FSci46	FSci47	FSci48	FSci49	FSci50	FSci51	FSci52	FSci53	FSci54
PO23									
PO24	✓				✓				
PO25		✓		✓		✓			
PO26									
PO27									
PO28									
PO29									
PO30									
PO31									
PO32									

	FSci55	FSci56	FSci57	FSci58	FSci59	FSci60	FSci61	FSci62
PO23								
PO24								
PO25								
PO26								
PO27								
PO28								
PO29								
PO30								
PO31								

PO32								

Appendix IV:
Benchmark Benchmark Statement(s)

FSci01 - *Generic: Demonstrate a basic knowledge of the relevant sciences, including mathematics and statistics (including the Bayesian approach), involved in forensic investigation*

FSci02 - *Generic: Demonstrate a basic knowledge of forensic techniques*

FSci03 - *Generic: Demonstrate competence in basic laboratory skills and procedures*

FSci04 - *Generic: Demonstrate an ability to select and carry out practical laboratory experiments in forensic investigations, including the use of relevant standard equipment*

FSci05 - *Generic: Demonstrate an awareness of the general issues and techniques involved in crime scene investigation*

FSci06 - *Generic: Demonstrate an ability to interpret laboratory and other investigations, with a satisfactory awareness of the limitations of the methods used*

FSci07 - *Generic: Demonstrate an awareness of the various legal and law enforcement environments within which forensic science is practiced*

FSci08 - *Generic: Demonstrate an ability to record accurately, organise data, make rational deductions and present the results of an investigation both in written and oral forms*

FSci09 - *Generic: Demonstrate an awareness of how scientific and technical progress is made within the discipline*

FSci10 - *Generic: Demonstrate an ability to develop appropriate strategies to enable continuing professional development*

FSci11 - *Generic: Demonstrate an awareness of, and commitment to, the ethical and legal obligations of science and particularly forensic science*

FSci12 - *Generic: Demonstrate an awareness of, and respect for, issues and practices involved with the handling, storage and investigation of human tissues, DNA and other trace evidential materials*

FSci13 - *Generic: Demonstrate an ability to comply with safe working practices, both for self and others*

FSci14 - *Generic: Demonstrate an awareness of quality assurance procedures within a forensic science context*

FSci15 - *Generic: Demonstrate a good knowledge of those sciences, including mathematics and statistics (including the Bayesian approach), involved in forensic investigation*

FSci16 - *Generic: Demonstrate a good knowledge of forensic techniques*

FSci17 - *Generic: Demonstrate confidence in laboratory skills and procedures*

FSci18 - *Generic: Demonstrate an ability to select, carry out and develop practical laboratory experiments in forensic investigations, including the use of relevant laboratory equipment*

FSci19 - *Generic: Demonstrate a good knowledge of the general issues and techniques involved in crime scene investigations*

FSci20 - *Generic: Demonstrate an ability to interpret the results of laboratory and other investigations, with a thorough appreciation of their limitations*

FSci21 - *Generic: Demonstrate a good knowledge of the various legal and law enforcement environments within which forensic science is practiced*

FSci22 - *Generic: Demonstrate an ability to record results accurately, organise data, make rational deductions and present clearly the results of investigations both in written and oral form, in a manner which can be readily assimilated within a legal, law...*

FSci23 - *Generic: Demonstrate a critical appreciation of how progress is made within the discipline*

FSci24 - *Generic: Demonstrate an evidenced commitment to continuing professional development*

FSci25 - *Generic: Demonstrate a knowledge of, and commitment to, the ethical and legal obligations of science and particularly forensic science*

FSci26 - *Generic: Demonstrate a good knowledge of and respect for issues and practices involved with the handling, storage and investigation of human tissues, DNA and other trace evidential material*

FSci27 - *Generic: Demonstrate competence in safe working practices, both for self and others*

FSci28 - *Generic: Demonstrate a critical appreciation of quality assurance procedures within a forensic science context*

FSci29 - *Crime scene investigation: Demonstrate a knowledge of the principal techniques and skills required for the recognition, processing, recording, preservation, recovery, scientific analysis and interpretation of evidence at and from a range of crime...*

FSci30 - *Crime scene investigation: Demonstrate familiarity with the responsibilities, roles and liabilities of those involved in a crime scene investigation, and an ability to work effectively within such a team*

FSci31 - *Crime scene investigation: Demonstrate the ability to construct and manage investigation strategies*

FSci32 - *Crime scene investigation: Demonstrate appropriate written and oral communication skills*

FSci33 - *Crime scene investigation: Demonstrate a wide knowledge of the techniques and skills required for the collection, processing, recording, preservation and interpretation of evidence at a crime scene*

FSci34 - *Crime scene investigation: Demonstrate a clear understanding of the responsibilities, roles and liabilities of those involved in a crime scene investigation, and an ability to work effectively and contribute positively within such a team*

FSci35 - *Crime scene investigation: Demonstrate the ability to construct and manage efficient investigation strategies*

FSci36 - *Crime scene investigation: Demonstrate good written and oral communication skills*

FSci37 - *Laboratory analysis: Demonstrate a knowledge of the theory and application of the principal laboratory methods used routinely in forensic science*

FSci38 - *Laboratory analysis: Demonstrate an ability to select and use a range of methods used in the location, identification, recovery, extraction and scientific analysis of commonly encountered physical, chemical and biological materials and marks,...*

FSci39 - *Laboratory analysis: Demonstrate an ability to adhere to contamination avoidance procedures*

FSci40 - *Laboratory analysis: Demonstrate satisfactory written and oral communication skills*

FSci41 - *Laboratory analysis: Demonstrate a wide knowledge of the theory and application of the laboratory methods used in forensic science*

FSci42 - *Laboratory analysis: Demonstrate competence in the selection, use and development of a range of methods used in the location, identification, recovery, extraction and scientific analysis of commonly encountered physical, chemical and biological...*

FSci43 - *Laboratory analysis: Demonstrate an ability to adhere to and develop contamination avoidance procedures*

FSci44 - *Laboratory analysis: Demonstrate good written and oral communication skills*

FSci45 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to manage, interpret and communicate forensic evidence and experimental results in the context of casework, including expert opinion*

FSci46 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to recognise and communicate levels of uncertainty in evidence or experimental data*

FSci47 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to prepare and deliver impartial and comprehensible oral and written reports in a variety of legal and law enforcement situations, including those involving the public*

FSci48 - *Interpretation, evaluation and presentation of evidence: Demonstrate a working knowledge of prevailing legal standards applicable to evidence, including digital data*

FSci49 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to effectively manage, critically interpret and clearly communicate forensic evidence and experimental results in the context of casework, including expert opinion*

FSci50 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to quantify and clearly communicate levels of uncertainty in evidence or experimental data*

FSci51 - *Interpretation, evaluation and presentation of evidence: Demonstrate the ability to prepare and deliver impartial, comprehensible and comprehensive oral and written reports in a wide variety of legal and law enforcement situations, including those...*

FSci52 - *Interpretation, evaluation and presentation of evidence: Demonstrate a good working knowledge of prevailing legal standards applicable to evidence, including digital data*

FSci53 - *Master's degrees: Demonstrate either a deep specialist knowledge and experience of techniques within a particular area of forensic science, or a wide knowledge and critical awareness of the whole discipline*

FSci54 - *Master's degrees: Demonstrate engagement and familiarity with recent and current research methods, results and publications*

FSci55 - *Master's degrees: Demonstrate an effective self-critical attitude in planning, carrying out and reporting investigations*

FSci56 - *Master's degrees: Demonstrate the abilities and skills necessary to devise, plan, carry out and report an original investigation or research project*

FSci57 - *Master's degrees: Demonstrate a clear recognition of the constraints and opportunities of the environment in which professional forensic science is carried out*

FSci58 - *Master's Degrees: Demonstrate self-direction and originality in applying and adapting problem-solving skills to unfamiliar, complex and open-ended situations*

FSci59 - *Master's degrees: Demonstrate an open and innovative attitude in the ability to plan and execute new experimental procedures*

FSci60 - *Master's degrees: Demonstrate a familiarity with the moral and ethical issues involved in the practice of forensic science*

FSci61 - *Master's degrees: Demonstrate confidence in their ability to interpret complex technical information and to communicate it in a wide variety of professional situations*

FSci62 - *Master's degrees: Demonstrate the independent learning ability required for continuing professional development*