



**Bournemouth
University**



Forensic Science

Forensic Biology

Forensic Investigation



Focus for our open day session today:

What will you learn at BU forensics?

Who will teach you?

Where will you study?

Current Staff Expertise



Richard Paul
Chartered Chemist,
Fellow RSC,
Professional member
CSFS



Paul Kneller
Chartered Chemist
Environmental Forensics,
Occupational Health and
Safety



Cassandra Edmunds
Forensic Biology
Member RES



Samuel Rennie
Kenyon Emergency Services
UK DVI Forensic Anthropology
Cadre
Consulting Forensic
Anthropologist/ Archaeologist



Victoria Crawford
Former senior scientist with
Forensic Science Service.
Professional member CSFS



Poppy McLaughlin
United Kingdom and Ireland Association of Forensic
Toxicologists
The International Association of Forensic Toxicologists
Society of Forensic Toxicologists

Current Staff Expertise



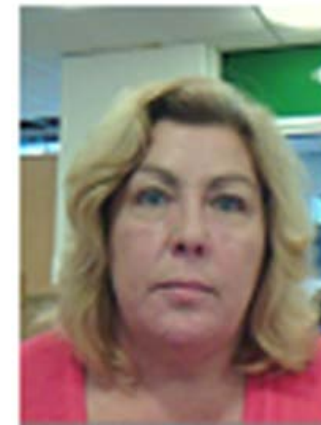
Martin Smith
Fellow of the Royal
Anthropological Institute
Professional member
CSFS



Paul Cheetham
International Society for
Archaeological Prospection
Forensic Search Advisory
Group



Nicola Jones
Former Dorset Police
LTG



Alex Otto
Former Senior CSI



Iain Hewitt
Chartered Institute for Archaeologists



Chris Dwen
Entomology
Crime Scene



Tilak Ginige
Criminal Law

Current Staff Expertise

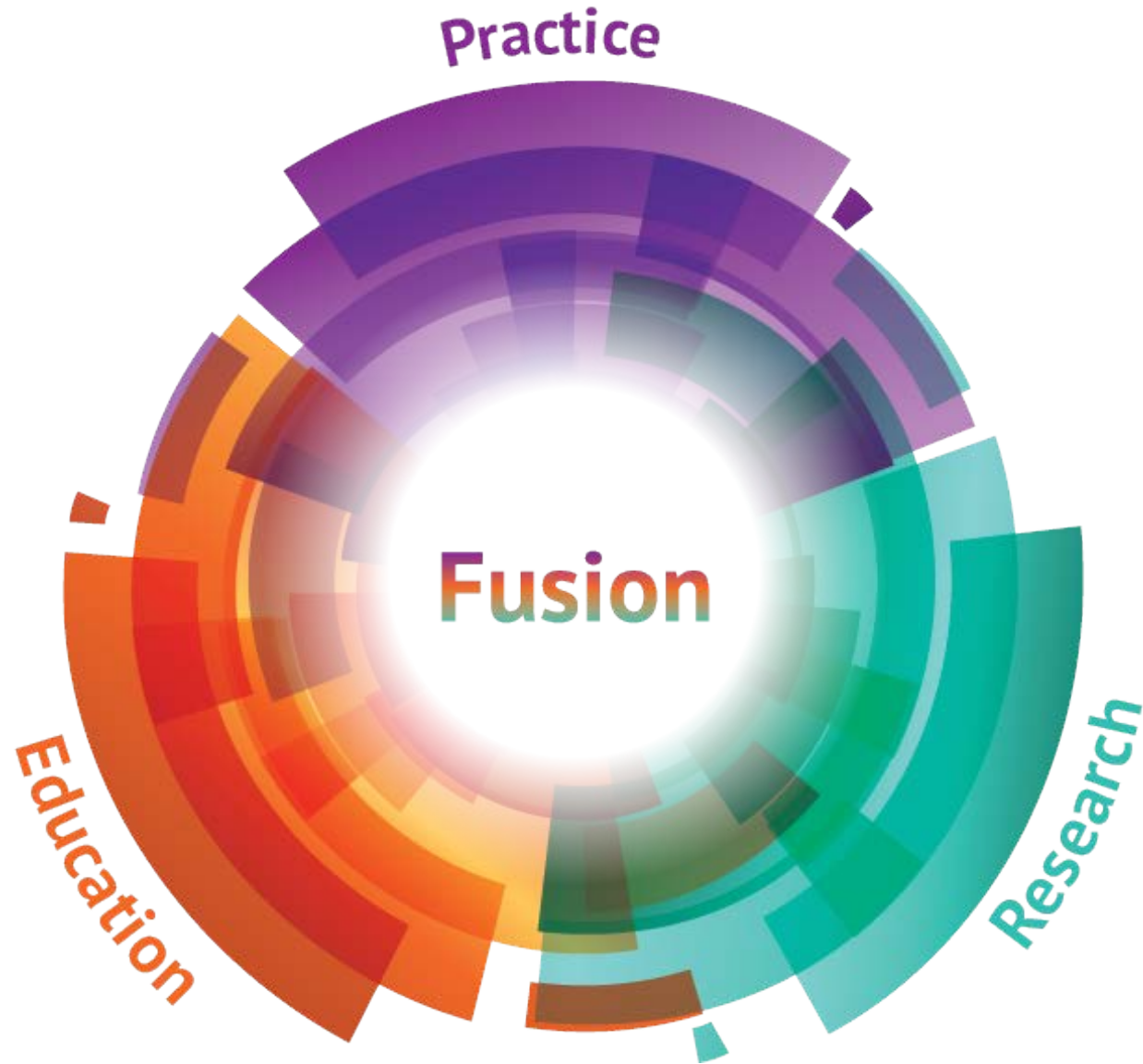


Prof Emeritus.
David Osselton



Police and Crime Commissioner.
Martyn Underhill

Fusion at Bournemouth

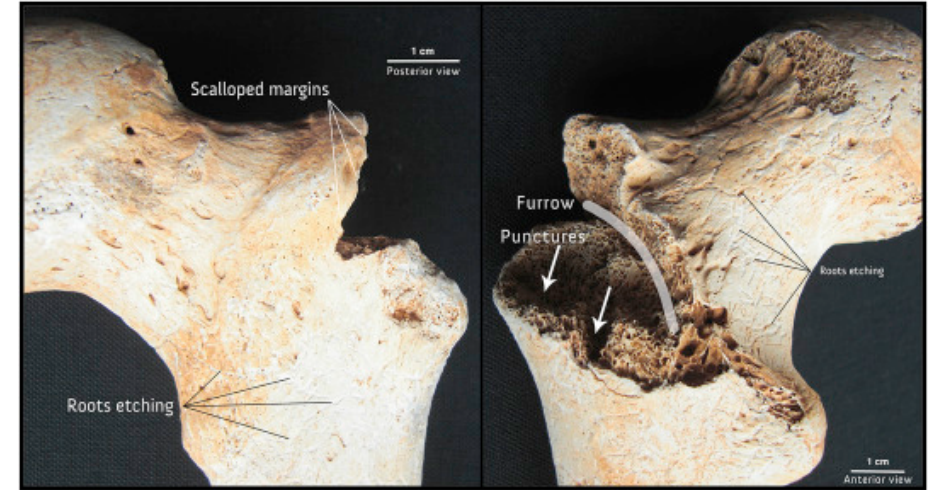


BSc Forensic Investigation



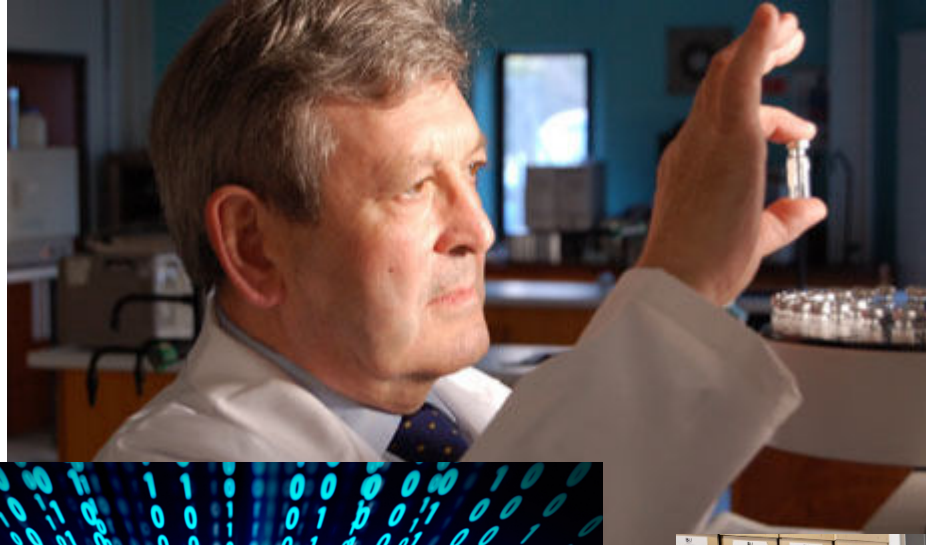
Maximising recovery of evidence with optimal integrity of recovered data

BSc Forensic Biology



- Focused on specific categories of evidence from biological sources

BSc Forensic Science



- Analysis of recovered data –what does it all mean?

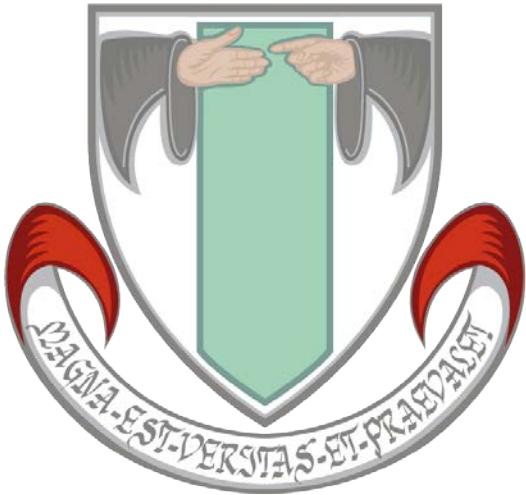
The Chartered Society of Forensic Sciences

BSc (Hons) Forensic Biology (CSFS Accredited) IEPE, CSI, LA

BSc (Hons) Forensic Science (CSFS Accredited) IEPE, CSI, LA

BSc (Hons) Forensic Investigation (CSFS Accredited) IEPE, CSI, LA

*IEPE – Interpretation, Evaluation & Presentation of Evidence, CSI - Crime Scene Investigation, LA – Laboratory



The
Chartered
Society of
Forensic
Sciences

‘There was an impressive list of staff with extensive professional forensic experience’

‘The significant, ongoing investment in academic staffing, new teaching laboratories and specialist equipment used within teaching and dissertations is commendable.’

CSFS Accreditation Report 2020

What is Forensic Science?

Forensic Science is the application of science in a legal context

- 'Forensic science activity' is defined as an activity relating to the application of scientific methods for a purpose mentioned in subsection 2 of the Forensic Science Regulator Act 2021.
- Those purposes are—
 - purposes relating to the detection or investigation of crime in England and Wales;
 - purposes relating to the preparation, analysis or presentation of evidence in criminal proceedings in England and Wales;
 - such other purposes as the Secretary of State may specify in regulations made by statutory instrument.
- Can include all areas of science
- Very responsible role

Specific questions....

What are the limits of Forensic Science?

How reliable is this evidence?

How safe is this conviction?

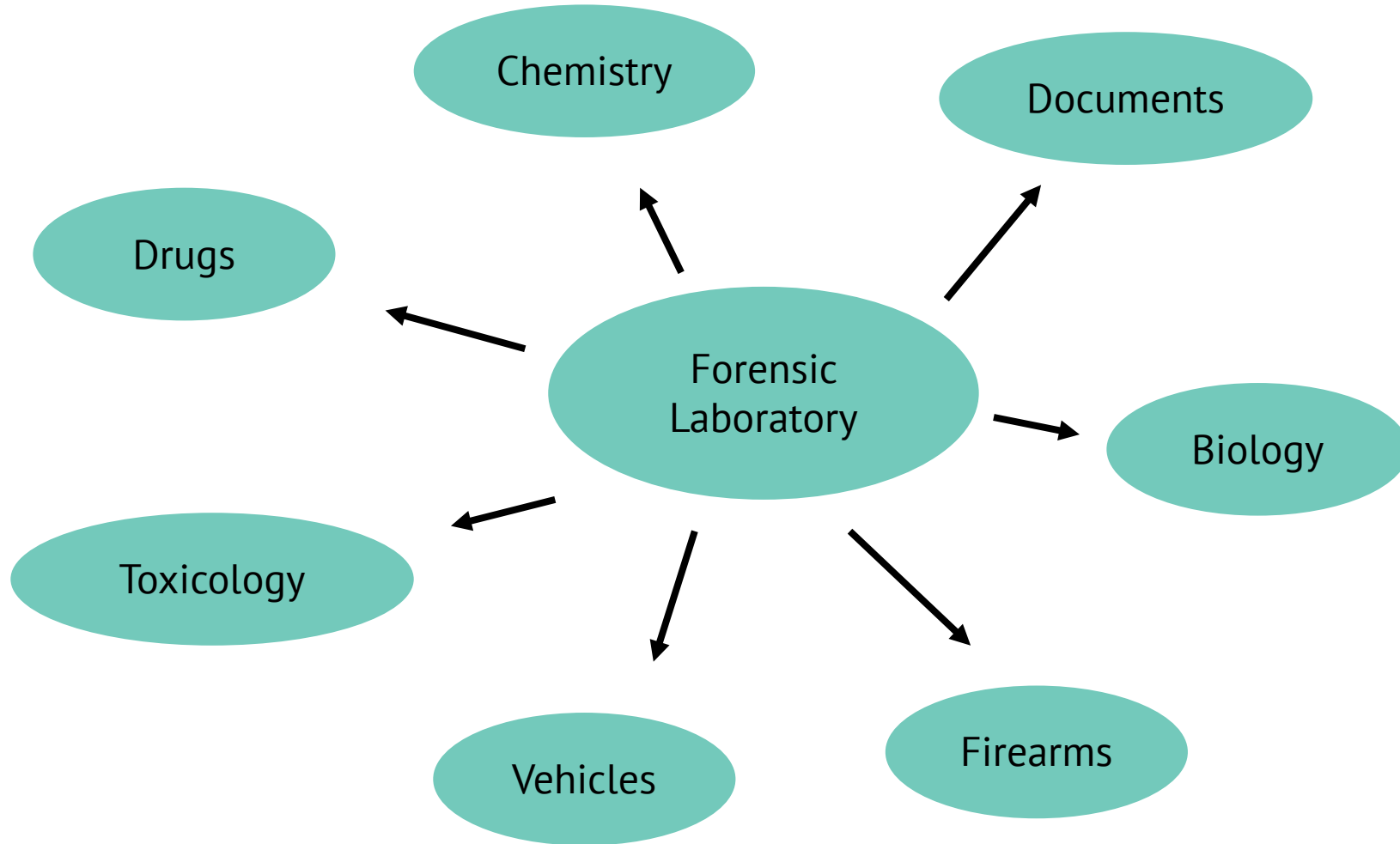
What are the consequences of getting it wrong?



Branches of Forensic Science

Crime Scene Recovery, Recording and
Surveying, Fingerprint Analysis, Footprint
Analysis, Photography, Odontology, Podiatry, DNA,
Pharmacology, Toxicology, Chemistry, Wildlife Crime, Digital Forensics,
Psychology, Psychiatry, Pathology, Document Analysis, Handwriting
Analysis, Environmental Forensics, Vehicle Analysis, Fibre Analysis,
Entomology, Forensic Nursing, Forensic Mathematics, Mycology, Palynology, Botany,
Biology, Blood Stain Analysis, Ballistics, Fire Investigation, Accounting, Archaeology,
Anthropology.....

Typical areas covered in a Forensic Sciences laboratory



Why study Forensic Sciences?

Top skills required by employers in 2015:

- Complex problem solving
- Coordinating with others
- People management
- Critical Thinking
- Negotiation
- Quality Control
- Service Orientation
- Judgement & Decision Making
- Active listening
- Creativity

Top skills required by employers 2020:

- Complex problem solving
- Critical Thinking
- Creativity
- People management
- Coordinating with others
- Negotiation
- Service Orientation
- Judgement & Decision Making
- Cognitive flexibility

Source: Future of Jobs Report; World Economic Forum 2015

Philosophy underlying Forensic Science

Locard Principal

“Every contact between people and/or objects
will result in the exchange of evidence of the
contact i.e. every contact leaves a trace”

Professor Edmond Locard (1877-1966)



Expert witness

Provide expert opinion that helps answer the questions that are important in the case.

Interpretation of factual observations seen as beyond the skills of the 'triers of fact'

Understand how robust and reliable any opinion may be



What will you study – Year 1

Forensic Biology	Forensic Science	Forensic Investigation
Introduction to Forensic Investigation	Introduction to Forensic Investigation	Introduction to Forensic Investigation
Forensic research skills	Forensic research skills	Forensic research skills
Chemistry	Chemistry	Chemistry
Human anatomy	Human anatomy	Human anatomy
Cell biology	Cell biology	Cell biology
Diversity of Life	Intro to forensic psychology	Intro to forensic psychology

What will you study – Year 2

Forensic Biology	Forensic Science	Forensic Investigation
Crime scene	Crime scene	Crime scene
Forensic law and practice	Forensic law and practice	Forensic law and practice
Forensic Science	Forensic Science	Forensic Science
Biochemistry	Biochemistry	Advanced crime scene
Advanced cell biology	Introduction to toxicology	Forensic computing
Biology for forensic science	Advanced cell biology	Case Studies
Introduction to toxicology	Case Studies	Geographic Information Systems
Case Studies	Advanced crime scene	Introduction to toxicology
Evolutionary Biology	Geographic Information Systems	

Choose 1 from:

What will you study – Year 3

	Forensic Biology	Forensic Science	Forensic Investigation
	Independent Research Project	Independent Research Project	Independent Research Project
	Advanced Forensic Science	Advanced Forensic Science	Advanced Forensic Science
	Advanced topics in genetics	Forensic toxicology	International Investigations
Choose 1 from:	Environmental forensics	Environmental forensics	Forensic toxicology
	Forensic toxicology	Science of human remains	Environmental forensics
	Pathophysiology		Science of human remains
Choose 1 from:	Forensic entomology	Biomolecules	Occupational health and safety
	Biomolecules	Forensic practice	Forensic practice

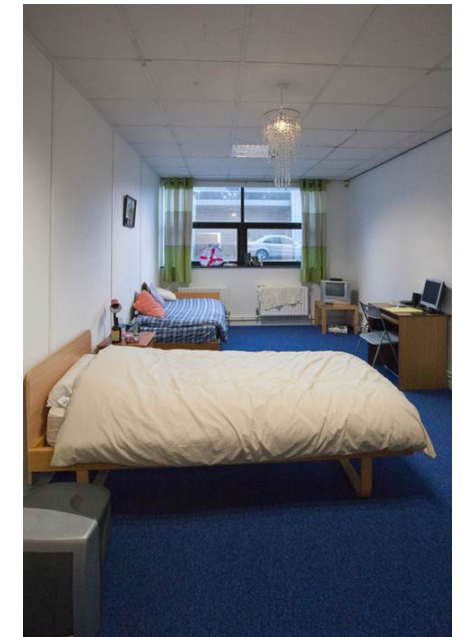
Facilities

- Modern well equipped laboratories
- Trigon Estate
 - Our own outdoor crime scene facility
- Crime Scene Training Centre
 - Students have access to laboratories, field resources & computing facilities



Crime Scene Investigation

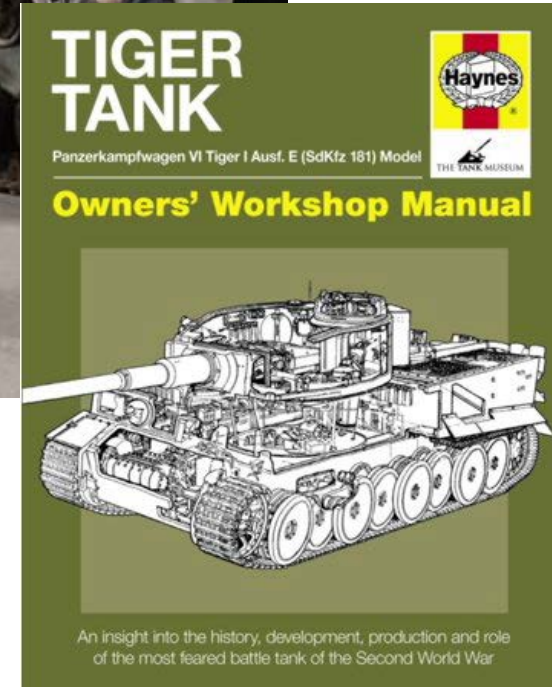
- Realistic scenarios
- Students attend simulated crime scenes
- Examine scene
- Make notes
- Take photographs
- Conduct laboratory analysis
- Witness box exercise in simulated court case



Hengistbury Head Murder



Weapons and observation skills – Tank Museum, Bovington



Fire scene examination



Professional BPA Training



The Forensic Sciences have interests in

- Alcohols
- Blood pattern analysis
- Body Fluids
- Chemistry
- Entomology
- Computer Crime
- Documents
- DNA
- Drugs/Toxicology
- Fibres
- Fingerprints
- Fire Investigation



- Firearms
- Chemistry
- Hair analysis
- Human remains
- Markers
- Crime scenes
- Photography
- Shoe marks
- Tool marks



Research – Student projects include:

- Near body drug screening
- Pharmacogenomics
 - Cancer treatment and pain relief
 - Drug addicted mothers & babies
- Drugs in Saliva / Oral Fluid – roadside drug testing
- Traumatic injuries
- Identification of human remains
- “Designer drugs”
- Entomotoxicology
- Fingerprint development
- Decomposition and taphonomy
- Blood pattern analysis
- Firearms discharge residues
- Counterfeit medicines and tobacco



2021 and 2022 entry

Numeracy and literacy requirements (e.g. GCSEs)	GCSE English Language or English Literature and Mathematics grade 4 (or grade C in the old grading system). We also accept iGCSEs, Key Skills and Functional Skills and other qualifications at Level 2 of the National Qualifications Framework. See all of the equivalencies.
A-level and AS levels	104–120 UCAS tariff points from a minimum of two A-levels.
Advanced Welsh Baccalaureate – Skills Challenge Certificate	We accept this qualification, but it must be accompanied by an A-level sized qualification to meet the overall UCAS tariff.
Access to HE Diploma	102–118 UCAS tariff points with any combination of Distinction, Merit, Pass grades.
BTEC National	<ul style="list-style-type: none"> • Extended Diploma: Distinction, Merit, Merit (112 UCAS tariff points) • Diploma: Distinction*, Distinction (104 UCAS tariff points) • Foundation Diploma/ 90-credit Diploma: We accept this qualification, but it must be accompanied by an A-level sized qualification to meet the overall UCAS tariff • Extended Certificate/ Subsidiary Diploma: We accept this qualification as part of the overall tariff.

Where to go from here?

Forensic roles

- Forensic Science providers
- Crime Scene Examiners
- Fingerprint Experts
- Forensic Imaging
- Fire Investigation
- Archaeology consultancies

Non-forensic

- Police
- Military
- Local Authority EH Departments
- Environment Agency
- Wildlife / Customs
- Industry & management
- Safety/Environment consultancies
- Commercial laboratories
- Medicine
- Teaching
- “Spooks”

It's competitive out there

- Securing a placement and employment after university will be easier with a range of experience and a strong CV.
- You can develop your global talent with a number of opportunities as part of your course, and opportunity for work, study or extra-curricular activities here or abroad

Study

Study a **semester abroad** at a university that has been specially selected by BU

Work

Undertake a **work placement abroad** as part of your placement year, placement option or elective (FHSS)

Extra-curricular

Other **international activities** that are not part of your course but will help you to develop global skills within your chosen field.

703

Bournemouth
University students
studied, worked and
volunteered abroad in
2015-16!

1,108

Bournemouth University
students studied, worked
and volunteered abroad in
2016-17!

Thank You for your attention!

**Any
questions?**

