



POLICE DO NOT CROSS

Postgraduate
master's courses in

Forensic science

Academic year 2024/25 entry

Cranfield Forensic MSc Programme
Digital Forensics MSc
Forensic Biology MSc

Cranfield University

We are the UK's only specialist postgraduate university in technology and management, with longstanding relationships with some of the most prestigious global companies. Our close collaboration with industry, and passion for the areas we operate in, will help your career.

Specialist postgraduate

A research-focused professional community

88%

of our research is world-leading or internationally excellent

Research Excellence Framework (REF) 2021

Over £150 million

of investment in new facilities over the past five years

Top 30

in the world for Engineering – Mechanical, Aeronautical and Manufacturing
QS World University Rankings by subject, 2023

A professional network of **75,000+** alumni, from 177 countries

5,000+ postgraduate students from **100+ countries**

Unique aerospace facilities
We have our own runway, our own airport, our own aircraft and our own air navigation service provider.

As we are postgraduate only, we are not listed in league tables that help compare undergraduate universities, such as *The Times World Rankings* and *The Complete University Guide*.

"I like the variety of the course and the elective modules available. A great attraction was the fact that the faculty who teach at the University are professionals and currently work in the areas they teach. The work that we do is not just coursework, we do actual pieces of work which you would be expected to do if you were in a workplace."

Amna Mahmoud, Analyst, Ministry of Defence,
(Forensic Explosive and Explosion Investigation MSc 2019)



Reasons to study forensic science with us

1 Cranfield Forensic Institute (CFI)

CFI is a world-class teaching department for the many forensic-related disciplines at Cranfield University, such as archaeology, ballistics, explosives, heritage crime investigation and materials science. Our superb facilities and excellent industry links will provide you with highly-desired standards of education and research, making CFI unique within the postgraduate education sector.

2 Facilities and teaching

In 2020, a £7.2 million investment created an unparalleled teaching and research facility in the United Kingdom at our Cranfield campus, run by industry-experienced academic staff. Using the latest forensic science technology, it includes teaching and research spaces such as a virtual autopsy table, simulated crime scenes and a simulated mass grave site.

3 Programme accreditation

The majority of our MSc courses have been formally accredited by the internationally-renowned Chartered Society of Forensic Sciences, under the Component Standards:

- Interpretation,
- Evaluation and Presentation of Evidence,
- Laboratory Analysis and Crime Scene Investigations.

Further details can be found at:
www.csofs.org

4 Research project

You will carry out an original research project in academia or the wider forensic sector, allowing you to apply skills and knowledge you have acquired. Project ideas can come from you, academic staff, or from partners such as the police, military, forensic providers and museums across the world.

5 Flexible study

The forensic MSc programme is available on a part-time or full-time basis. As a part-time student you may be in full-time employment and can take up to three years to complete your course. There is plenty of flexibility and we recognise that you will need to balance your studies with your career. The courses are modular and you can select modules throughout the academic year to fit in with other commitments. The full-time course can also be completed in one year.

6 Broad portfolio

CFI offers a wide range of study options, including research degrees, taught degrees and short courses. Read more:
www.cranfield.ac.uk/cfi



Courses

Cranfield Forensic Programme

We know how important it is for you to get the most out of your postgraduate study and use it to set yourself up for a successful career in forensics.

This is why the Cranfield Forensic Modular Programme is designed specifically to let you choose elective modules that suit you personally, professionally or just strike up intrigue and enthusiasm.

Courses included in the Cranfield Forensic Modular Programme:

- Forensic Archaeology and Anthropology,
- Forensic Ballistics,
- Forensic Explosive and Explosion Investigation,
- Forensic Investigation.

Modules make up 60% of course content with 40% being undertaken with the research project.

The number of elective modules may be subject to change from course to course, so please check the relevant webpage for further information.

Electives may not run if there is limited student uptake. However, alternatives will be offered.

"We are highly respected for our research and teaching excellence and this is because the majority of our staff are operational within their fields of expertise. We are unique in this sense and pride ourselves on feeding our operational experiences and skills back into our teaching. We have several key members of staff who are world class researchers within their fields. Our academics have strong collaborative working links with industry and where possible, we connect our students with industry throughout their time with us."

Dr Hannah Moore,
Cranfield Forensic Programme Director



Forensic Archaeology and Anthropology

www.cranfield.ac.uk/faa • Accredited - see page 13

MSc, PgDip
Full-Time or Part-time

The Forensic Archaeology and Anthropology MSc at Cranfield Forensic Institute is taught by world-leading experts and involves a hands-on practical teaching style with interesting and thought-provoking lectures from our staff and guest speakers.

You will have the opportunity at getting your hands dirty with practical archaeological excavations, looking at the science and exploring simulated mass grave sites and using a plethora of practical and theory-based techniques to understand and analyse the world as we find it. You will be required to take eight core modules and choose three elective modules (see page 9) based on your particular background, future requirements or interests.

Core modules

- Analytical Techniques,
- Courtroom Skills,
- Forensic Archaeology: Mass Grave Excavation,
- Forensic Archaeology: Recovering Buried Remains,
- Fundamentals of Forensic Archaeology: Osteology,
- Further Forensic Anthropology: Identification,
- Investigation and Evidence Collection,
- Reasoning for Forensic Science.

Course Director

Dr David Errickson
E: david.errickson@cranfield.ac.uk



Forensic Ballistics

www.cranfield.ac.uk/fb • Accredited - see page 13

MSc, PgDip

Full-Time or Part-time

The requirements for forensic investigation around ballistics is becoming more and more prevalent in today's world. The need for expertise to understand gun crime, examination of firearms and the science of ballistics is becoming crucial for armed and non-armed forces worldwide.

The course benefits from facilities that no other university in the UK can offer, and our close relationship with the Defence Academy of the United Kingdom and MOD allows us access to facilities unrivalled elsewhere. You will be required to take four core modules, seven course specific modules and choose three elective modules (see page 9) based on your particular background, future requirements or interests.

Core modules

- Courtroom Skills,
- Ballistic Impact and Protection,
- Introduction to Firearms Investigations and Forensic Ballistics,
- Materials Engineering and Processing,
- Firearms Investigations,
- Forensic Ballistic Investigations,
- Introduction to Shock and Impact,
- Investigation and Evidence Collection,
- Reasoning for Forensic Science.

Course Director

Dr Kate Hewins

E: k.norton-hewins@cranfield.ac.uk



Forensic Explosive and Explosion Investigation

www.cranfield.ac.uk/fee • Accredited - see page 13

MSc, PgDip

Full-Time or Part-time

Using cutting edge research, latest methodologies and in-depth forward thinking. The Forensic Explosive and Explosion Investigation MSc aims to enhance your understanding in a fast-paced science.

The course allows you to flexibly choose a number of elective modules to suit your prospective career. You can choose from a list of different capabilities within the scope of the course, whether than be Hazardous materials, counter-improvised explosive devices (IED) investigation or firearms and their investigation. You will be required to take eight core modules and choose three elective modules (see page 9) based on your particular background, future requirements or interests.

Core modules

- Ballistic Impact and Protection
- Counter Improvised Explosive Devices Capability
- Courtroom Skills
- Explosive Effects on Structures
- Forensic Investigation of Explosives and Explosive Devices
- Fires, Explosions and their Investigation
- Introduction to Shock and Impact
- Investigation and Evidence Collection
- Reasoning for Forensic Science

Course Director

Mike Harris

E: mike.e.harris@cranfield.ac.uk



Forensic Investigation

www.cranfield.ac.uk/forensicinvestigation • Accredited - see pg 13

MSc, PgDip, PgCert

Full-Time or Part-time

This MSc is highly practical and hands-on. It is designed to give an understanding of the cutting-edge research and latest forensic methodologies and is intended to enable graduates to resolve issues in relation to civil and criminal law.

The Forensic Investigation course has been devised by academics with operational experience in forensic science and police investigation. Its graduates are highly successful at progressing into forensically-based careers. You will be required to take five core modules and choose six elective modules (see page 9) based on your particular background, future requirements or interests.

Core modules

- Advanced Crime Scene Investigation,
- Analytical Techniques,
- Courtroom Skills,
- Investigation and Evidence Collection,
- Reasoning for Forensic Science.

Course Director

Dr Hannah Moore

E: h.e.moore@cranfield.ac.uk

✓ = Compulsory modules

	Forensic Archaeology and Anthropology	Forensic Ballistics	Forensic Explosive and Explosion Investigation	Forensic Investigation
	Choose three electives	Choose three electives	Choose three electives	Choose seven electives
Advanced Evidence Collection				✓
Analytical Techniques	✓			✓
Archaeometallurgy	Elective			
Ballistic Impact and Protection		✓	✓	
Counter-Improvised Explosive Device Capability	Elective	Elective	✓	Elective
Courtroom Skills	✓	✓	✓	✓
Digital Crime and Investigation	Elective	Elective	Elective	Elective
Digital Scene Forensics	Elective	Elective	Elective	Elective
Explosive Effects on Structures		Elective	Elective	
Extended Essay				
Fakes and Forgeries	Elective	Elective	Elective	Elective
Field Methods in Heritage Crime Investigation	Elective	Elective	Elective	Elective
Fire Engineering		Elective	Elective	Elective
Firearms Investigations		✓	Elective	Elective
Fires, Explosions and their Investigation		Elective	Elective	Elective
Forensic Archaeology: Mass Grave Excavation	✓			Elective
Forensic Archaeology: Recovering Buried Remains	✓	Elective	Elective	Elective
Forensic Ballistics Investigations		✓	Elective	Elective
Forensic Ecology	Elective	Elective	Elective	Elective
Forensic Exploitation and Intelligence	Elective	Elective	✓	Elective
Forensic Investigation of Explosives and Explosive Devices		Elective	✓	Elective
Fundamentals of Forensic Anthropology: Osteology	✓	Elective	Elective	Elective
Further Forensic Anthropology: Identification	✓			Elective
Hazardous Forensics	Elective	Elective	Elective	Elective
International Crimes Against Cultural Heritage	Elective	Elective	Elective	Elective
Introduction to Firearms Investigation and Forensic Ballistics	Elective	✓	Elective	Elective
Introduction to Fire Investigation	Elective	Elective	✓	Elective
Introduction to Shock and Impact		✓	✓	
Investigating Threats to Cultural Heritage	Elective	Elective	Elective	Elective
Investigation and Evidence Collection	✓	✓	✓	✓
Investigation of Transnational Heritage Crime	Elective	Elective	Elective	Elective
Mass Fatality Incidents	Elective	Elective	Elective	Elective
Materials Engineering and Processes		✓	Elective	Elective
Practical Archaeological Excavation	Elective			Elective
Radiographic Investigations in Forensic Science	Elective	Elective	Elective	Elective
Reasoning for Forensic Science	✓	✓	✓	✓
Trace Evidence	Elective	Elective	Elective	Elective
Trauma Weapon Effects	Elective	Elective	Elective	Elective

Forensic Biology

MSc, PgDip, PgCert
Full-Time or Part-time

This MSc is highly practical by its very nature. There is a focus on the interpretational skills required to critically evaluate different forms of forensic evidence recovered from exhibits in the laboratory and at the crime scene, based on scenarios.

With particular focus on biological evidence types, such as DNA, blood and other body fluids, the MSc focuses on the decision making and practitioner opinion of the scientific evidence based on real life case scenarios. It is our newest course in the forensic MSc portfolio. Our first cohort of students joined us in 2023 and are currently undertaking these brand new modules on their path to becoming expert forensic biologists and investigators.

Core modules

- Analytical Techniques,
- Courtroom Skills,
- Bloodstain Pattern Analysis,
- DNA,
- Body Fluid,
- Investigation and Evidence Collection,
- Reasoning for Forensic Science.

- Fires, Explosions and their Investigation,
- Forensic Archaeology Mass Grave Excavation,
- Fundamentals of Forensic Anthropology Osteology,
- Introduction to Fire Investigation,
- Mass Fatality Incidents,
- Practical Archaeological Excavation,
- Radiographic Investigations in Forensic Science,
- Trace Evidence,
- Trauma Weapon Effects.

Elective modules (choose four)

- Digital Scene Forensics,
- Forensic Ecology,
- Fakes and Forgeries,
- Fire Engineering,

Course Director

Laura Hugh
E: l.hugh@cranfield.ac.uk

Digital Forensics

MSc, PgDip, PgCert
Full-Time or Part-time

Over 90% of crime is now recognised as having a digital element and the UK Government has stated that digital forensic science sits at the heart of delivering justice in the 21st century, spanning the entire criminal justice system from crime scene to courtroom.

The MSc in Digital Forensics, offered by Cranfield University in partnership with CCL Solutions Group, (CCL) will seek to address the academically orientated operational needs of UK policing and serious skills shortage of educated and trained individuals in the field to fill digital forensic positions and support the UK's criminal justice system.

Core modules

- Courtroom Skills,
- Investigation and Evidence Collection,
- Introduction to Digital Crime and Investigation,
- Digital Forensics Techniques and Traces,
- Internet Based Investigations,
- Programming for Digital Forensics,
- Mobile Device Forensics.

Course Director

Andrew Sheldon
E: andrew.sheldon@cranfield.ac.uk



Course structure

Our specialist, sector-facing master's courses are set up and developed in close collaboration with industry partners, ensuring the content of our courses remain industry-relevant and employers remain impressed with your business-readiness.

This diagram illustrates the course structure of many of our full-time master's courses, it is not indicative of all courses. Please check your course structure online for more detailed information, including the weight of each phase and part-time course structure variations.

An intensive learning experience, providing the knowledge you need to excel in your chosen field.

An independent and original investigation, which is normally experiment-based and related to a specific area of the syllabus.

Taught programme

Individual thesis

60%

120 credits, 1,200 hours

40%

80 credits, 800 hours

Registration

200 credits
2,000 hours

Completion

Industry-supported projects

Cranfield has unrivalled links with industry and academia. You will benefit from our extensive contacts and track record of close collaboration with the forensics and security sectors.

Our Cranfield Recovery and Identification of Conflict Casualties (CRICC) team has taken part in critical collaboration projects with the U.S. Defense Prisoner of War/Missing in Action Accounting Agency (DPAA) in repatriating and identification of a fallen WWII US Airforce serviceman.

Our links include worldwide collaborations with other universities such as Oxford, Harvard and Berlin, recently working with a team of researchers from Cranfield University, Leicester University, the University of East Anglia, the University of York and the British Museum looking at the diet in the early colonial Caribbean. Scientists have found what they believe to be the earliest known evidence of wine drinking in the Americas and how fusion foods can be traced back to the 15th century.

Careers

Our forensic courses open doors to several different career opportunities. These include employment routes into government and non-governmental bodies, police forces, law enforcement agencies, independent forensic service providers, and consultants working in a range of sectors, such as insurance companies.

Roles:

- DNA Specialist,
- Scenes of Crime Officer,
- Casework Officer,
- Forensic Firearms Technician,
- Forensic Scientist,
- Toxicology Analyst.

Organisations:

- Cellmark Forensic Services,
- College of Policing
- Forensic Access Group,
- Taylor Marine,
- Eurofins UK - Eurofins Scientific,
- Wiltshire Police.

Many students choose to go on to an academic career or to further their research interests at PhD level, which provides a significant boost to their market value and employability.



Academic staff

You will be taught by a wide range of subject specialists and industry professionals, who draw upon their research and industrial expertise to provide stimulating and informed teaching.



Laura Hugh, Course Director, Forensic Biology MSc

Laura is a Forensic Biologist with 12 years practitioner experience. She originally trained as a Forensic Examiner in the Forensic Science Service (FSS). She then moved to LGC Forensics where she was a court attending expert witness trained in the interpretation of body fluids (including BPA) and DNA.

She currently sits as an advisor on the body fluids subgroup of the Forensic Capability Network (FCN) and has also delivered training in forensic science awareness for UK police forces.



Dr Graeme Horsman, Senior Lecturer in Digital Forensics

Graeme has over 9 years of experience in teaching and research in higher education in the areas of digital forensic and cyber investigation. His education includes a BSc Computer Forensics degree, Masters of Jurisprudence, PhD and Postgraduate Certificate of Higher Education Practice. He is also a Senior Fellow of the Higher Education Academy. To date, he has published over 75 articles in international peer-reviewed venues in the digital forensics area.



Dr Nick Marquez-Grant, Lecturer in Forensic Anthropology

From 2008 to 2013 Nick worked full time as a forensic anthropologist and archaeologist for two major forensic science providers in the UK – LGC Forensics and Cellmark Forensic Services – attending crime scenes and mortuaries for a number of police forces in England and Wales.

He joined Cranfield as a Lecturer in Forensic Anthropology in 2013 and supplements his role by remaining practitioner active, working on human skeletal remains from Prehistoric to early 20th century sites in the UK, Spain, France and Portugal and consulting work on a number of museum collections.

"I was drawn to Cranfield for various reasons. I liked that the University was exclusively postgraduate. I could see how this would give teaching staff more time for students. The structure of the course was especially appealing with modules concentrated over short periods instead of spread over whole terms. The course seemed to be very practical in nature, focusing on the application of methods in real-life scenarios. The style of assessments appeared varied and geared to developing practical and professional skills. The fact that the course is formally accredited by The Chartered Society of Forensic Science is also a huge draw."

Lianne Bettis, (Forensic Archaeology and Anthropology MSc 2022)



Key facts and statistics

Course information



Full-time
One year



Part-time
Up to three years
See the course page for more information about part-time study.



Start date
October



Location
Our courses are delivered at Cranfield campus, however some modules may be taught at the Defence Academy of the United Kingdom, Shrivenham. Please see individual course web pages.



Fees
Please see the individual course pages on our website for full fee information and full-time or part-time options. Terms and conditions apply.

See www.cranfield.ac.uk/fees

Cohort profile*



Geographic spread
64% UK
36% International



Typical age range
20-49 years



Average cohort size
15



Student / academic staff ratio
5:1

*Figures as at July 2023.

Accreditation

The Chartered Society of Forensic Sciences (www.csofs.org) is the professional body representing forensic sciences. It is internationally-recognised and has around 3,000 members in 60 countries. The following MSc courses are accredited:

- Forensic Archaeology and Anthropology,
- Forensic Ballistics,
- Forensic Explosive and Explosion Investigation,
- Forensic Investigation.



The
Chartered
Society of
Forensic
Sciences

Financing your studies

If you need advice on funding your course or living costs, we can provide information and a range of online tools to help you put together the funding package you need.

There are many other sources of financial support available.
Please see our website for more details: www.cranfield.ac.uk/funding

How to apply

Read more about our entry requirements and how to apply.

www.cranfield.ac.uk/apply



Life at Cranfield

Cranfield Campus

Our courses are all delivered at Cranfield campus, located just over an hour from London in the English countryside. It's environment supports close working relationships between our multinational postgraduate students, academics and industry experts.

Cranfield University at Shrivenham

For select modules, students will also have access to the facilities at the Defence Academy of the United Kingdom, Shrivenham which is a Ministry of Defence (MOD) site. This is located in beautiful countryside near Swindon, with quick and convenient links to London and major UK airports.

Cranfield Ordnance Test and Evaluation Centre (COTEC)

COTEC is situated on the edge of Salisbury Plain in Wiltshire. Students on some courses and modules will have the opportunity to use the facilities at COTEC to undertake exercises, evaluations and independent tests at this safe and expert site.

www.cranfield.ac.uk/visit



Important information about security clearance for courses that are held in full or part at Shrivenham

Some Cranfield University courses are delivered at the Defence Academy of the United Kingdom, Shrivenham which is a Ministry of Defence (MOD) site. All applicants to courses that are wholly or partially delivered at Shrivenham must complete the BPSS (HMG Baseline Personnel Security Standard V4 April 2014) prior to registration on the course or must already hold a security clearance to this level or higher. It will take additional time to process your BPSS clearance application and you will not be able to do this course if you fail to obtain this. Please refer to the course page on the website for full details.

Have a look at some of our facilities in this virtual experience:

virtualexperience.cranfield.ac.uk

Cranfield University works with over

1,500 businesses and governments
based in over 40 countries

These organisations include:



For a full list of Cranfield courses, please see our prospectus and website.

www.cranfield.ac.uk/cfi

T: +44 (0)1234 758540
E: studyforensics@cranfield.ac.uk

Cranfield University
Cranfield
MK43 0AL, UK


[@cranfielduni](https://twitter.com/cranfielduni)


[@cranfielduni](https://www.instagram.com/cranfielduni)


[/cranfielduni](https://www.youtube.com/c/cranfielduni)


[Cranfield University](https://www.linkedin.com/company/cranfield-university)


[/cranfielduni](https://www.facebook.com/cranfielduni)


blogs.cranfield.ac.uk

Every effort is made to ensure that the information in this brochure is correct at the time it is printed. Please check our website for the latest information. CDS FS September 2023.