Forensic Ballistics

MSc/MSc by Research/PgDip

This course is designed to provide students with a comprehensive insight of the field of firearms, ammunition and ballistic investigations. The course offers students a wide range of different experiences with unique facilities available to no other university in the UK and is part of the MSc Forensic Programme which is formally accredited by The Chartered Society for Forensic Sciences. Students come from a wide range of backgrounds, usually with a science or forensic science first degree. Many students come from abroad, especially Europe, Africa and North America. The course is highly practical and hands-on, aiming to produce a clear understanding of how firearms and ammunition function, the science of ballistics, the role of the forensic firearms examiner and how the forensic evidence produced in gun crime can be used to help resolve issues in relation to criminal and civil law.

Course structure

Students are required to take nine core modules and choose three elective modules based on their particular background, future requirements or interests. This is followed by a four-month research project and either a thesis or literature review and paper.

Individual project

The individual project takes four months from April to July. The student selects from a range of titles, or may propose their own topic. Most are practically or experimentally based using Cranfield's unique facilities.

Future career

Prepares you to practice as a professional expert witness in forensic ballistics, within forensic laboratories, police departments, government bodies and non-governmental organisations. It is also a necessary introduction that could lead into conducting research at PhD level in the subject.

Accreditation

The MSc of this course is accredited by The Chartered Society of Forensic Sciences.

Example modules

Modules form only part of the course, with the project(s) and theses making up the balance. Please see the course structure for details.

The list below shows the modules offered in the 2019-20 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change – please see the webpage for the latest information.

Compulsory:

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

Elective (choose three):

- Counter-Improvised Explosive Device Capability,
- Digital Crime and Investigation,
- Environmental Forensic Science,
- Explosive Effects on Structures,
- Fakes and Forgeries,
- Fires, Explosions and their Investigation,
- Forensic Archaeology: Recovering Buried Remains,
- Forensic Exploitation an Intelligence,
- Forensic Investigation of Explosives and Explosive Devices,
- Fundamentals of Forensic Anthropology: Osteology,
- Hazardous Forensics,
- International Heritage Crime,
- International Heritage Crime Exercise,
- Mass Fatality Incidents,
- Radiographic Investigations in Forensic Science,
- Trace Evidence,
- UK Heritage Crime,
- UK Heritage Crime Exercise.

Duration:
MSc: 11 months full-time, up to three years part-time.
PgDip/PgCert: one year full-time, up to two years part-time.

Start date:
October.

Location:
Cranfield.

Entry requirements:
A first or second class Honours degree, or equivalent, in a relevant discipline such as a science, archaeology, anthropology, engineering, forensic science, materials, or the professional equivalent. Students with other degrees who can show a knowledge of and interest in the scientific elements of the subject will also be considered.

Contact details

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For further information please visit
www.cranfield.ac.uk/fb