

FORENSIC SCIENTIST

WHAT DOES A FORENSIC SCIENTIST DO?

Forensic Scientists examine materials connected with crimes, and aid police enquiries where scientific advice is required. Interest in forensic science has increased over the last few years, partly as a result of popular television crime dramas - however, these don't always reflect the true nature of the work which is highly scientific and often involves detailed, painstaking work.

Job activities very much depend on the area of forensics:

- **Chemistry:** connected to crimes against property, such as burglary and arson. Involves the examination of paint and other chemicals
- **Biology:** connected to crimes against people, such as murder, assault and rape. Involves DNA testing and the examination of minute traces of things like blood, hair and clothing fibres
- **Drugs and toxicology:** testing for restricted drugs, examining tissue specimens for poison detection, and the analysis of blood and urine samples to detect alcohol

Typical work activities, whatever the area of forensics, are likely to include:

- analysing samples, such as hair, body fluids, glass, paint and drugs, in the laboratory
- applying techniques such as gas and high performance liquid chromatography, scanning electron microscopy, mass spectrometry, infrared spectroscopy and genetic fingerprinting
- sifting and sorting evidence, often in miniscule quantities
- attending and examining crime scenes
- recording findings and collecting trace evidence from scenes of crimes or accidents
- analysing and interpreting results and computer data
- presenting results in writing, or orally in court

SKILLS REQUIRED

Applicants for Forensic Science courses and jobs will need to demonstrate that they have:

- a persistent approach
- an enquiring mind
- the capacity to undertake fine, analytical, painstaking work with exceptional attention to detail
- a logical, unbiased and methodical approach to problem solving
- the ability to work well in a team, as well as independently
- strong written and oral communication skills and the ability to communicate scientific information to non-experts
- the ability to work to deadlines

A driving licence may be an advantage and good colour vision is important for certain work.

QUALIFICATIONS REQUIRED

- Direct entry as a Forensic Scientist requires a good honours degree (at least a 2:2) in a mathematical or scientific subject (including forensic science). While there has been an increase in the number of forensic science undergraduate degree courses, they do not all provide the skills and knowledge required to work as a forensic scientist: the Forensic Science Society (FSSoc) provides details of accredited courses on its website: www.forensic-science-society.org.uk
- Applicants will need to pass a Disclosure and Barring Service (DBS) check.
- Check entry requirements and course content with individual course providers.

UNDERGRADUATE COURSES

There are many relevant degree courses in the West Midlands – for accredited courses, visit: <http://www.csofs.org/Accredited-course-search>. Please note, that some institutions also offer joint honours/ combined honours courses (e.g. Forensic Science & Psychology) - please check with each provider. Some examples of relevant courses are given below.

BSc Forensic & Applied Biology: University of Worcester (<http://www.worcester.ac.uk/>)

Length of study: 3 years full-time, although a part-time option is available

Entry requirements - qualifications: The University says that it will “consider each application on its individual merits and will recognise a range of qualifications not currently included in the Tariff, including Access courses...”

Detailed advice for *BTEC* applicants is shown on the UCAS page for this course.

Entry requirements - work experience: None specified.

BSc (Hons) Forensic Science: Keele University (<http://www.keele.ac.uk/>)

Length of study: 3 years full-time

Entry requirements - qualifications: Keele University now offers Forensic Science as a Single Honours, Dual Honours and Major: Minor combination. The admissions team advise that where an applicant applies to the dual honours or Major: Minor degree system (where students studying Forensic Science also study a second subject e.g. Human Biology) the offer is made jointly with a second subject so applicants need to consider the entry requirement for their chosen second subject as well.

Keele states that it considers each *Access to HE Diploma* applicant individually, having looked at their credits studied and having considered their experience. Keele advises *Access to HE* applicants who want to study Forensic Science, to study as many credits of Chemistry as possible and to maximise their laboratory experience. Where an offer is made, Keele would ask the applicant to obtain 30 Level 3 credits with distinction.

Keele considers each *BTEC* Level 3 Extended Diploma (QCF) applicant individually, having looked at their units studied and having considered their experience. Keele advises *BTEC* applicants who want to study Forensic Science to study as many units containing Chemistry as possible and to maximise their laboratory experience. Where an offer is made, Keele would ask the applicant to obtain triple distinction in the overall *BTEC* Level 3 Extended Diploma (QCF) qualification.

Entry requirements - work experience: Laboratory experience would be advantageous.

HND Forensic Science: University of Wolverhampton (<http://www.wlv.ac.uk/>)

Length of study: 2 years full-time

Entry requirements - qualifications: Applicants with an *Access to HE Diploma* in Science must have 18 credits in science-based subjects at level 3 and English and Mathematics at level 2. Applicants with a *BTEC* are considered – see the UCAS webpage on this course for further details.

Entry requirements - work experience: None specified.

NB Please check entry requirements with individual course providers.

POSTGRADUATE COURSES

Full-time postgraduate courses usually last for 1 year whilst part-time courses vary in length. Postgraduate courses in Forensic Science usually require a relevant first degree such as: Physical, Mathematical and Applied Sciences, Life Sciences, Medical Sciences, Agricultural and Horticultural Sciences, and Engineering. The following degree subjects may improve your chances of gaining a place on a postgraduate course: Biochemistry; Biology; Biomedical Science; Chemistry; Crop and Plant/Soil Science; Materials Science; Pharmacology; Physiology.

NB Please check entry requirements with individual course providers.

EMPLOYMENT SECTORS

Until recently, a principal employer of forensic scientists was the Forensic Science Service (FSS) which provided forensic services for the police, HM Revenue & Customs (HMRC) and the Crown Prosecution Service (CPS). Since its closure in 2012, this work is now undertaken by a range of commercial organisations some of which are based in Worcestershire and Staffordshire.

Other employers of forensic scientists include forensic science units within large police forces, the Defence Explosives Laboratory which specialises in forensic work on explosives.

Vacancies may also arise in medical schools, university research departments, public health laboratories and companies dealing in specialist areas such as fire investigation.

WORKING CONDITIONS

Forensic scientists work mainly in clean laboratories. They may travel to indoor and outdoor crime scenes, in all weathers and may need to bend or crouch to examine evidence. Their work could involve spending time away from home.

They may work shifts and have an on-call rota. Extra hours are sometimes required to get a job done in the allotted time. There may be opportunities for part-time work, flexible hours and job share. Short-term contracts and agency work are occasionally available and may result in full-time appointments.

SALARY

Forensic Scientists earn £20,000 - £45,000 per year or more.

NB These figures are only a guideline: see job advertisements for up-to-date information.

LABOUR MARKET DATA

Although the number of Forensic Scientists has grown over the past few years, entry remains very competitive. There are many more Forensic degree course places than there are Forensic job vacancies. Some Forensic Scientists are self-employed.

Geographical availability of posts is restricted by the location of forensic science laboratories. There are a number of independent forensic laboratories that cover all types of forensic examination. They employ approximately 1,000 forensic staff.

PROFILE OF CURRENT WORKFORCE (Figures are for the whole science and engineering professional sector)

Full-time: 80%; Part-time: 9%; Self-employed: 11%

INFORMATION SOURCES:

- National Careers Service: <https://nationalcareersservice.direct.gov.uk/>
- Prospects: <https://www.prospects.ac.uk/>
- The Chartered Society of Forensic Sciences: <http://www.forensic-science-society.org.uk/>
- UCAS: <https://www.ucas.com/>

VIDEO CLIPS

- <http://www.youtube.com/watch?v=oLNKAE0HqxQ> (please note that this video clip was created by a private forensic science company)
- <https://www.youtube.com/watch?v=D5rVhysVQQ>
- <https://www.youtube.com/watch?v=QP9IE0XWqw0>

ASSOCIATED ROLE: ASSISTANT FORENSIC SCIENTIST

Role: Assistant Forensic Scientists carry out some of the lab-based analytical work for forensic scientists.

Entry requirements: Applicants need at least 1 A level in a science subject (preferably Biology and/or Chemistry) and 4 GCSEs grade A*-C including English and either Chemistry, Biology or Maths or their equivalent.

As there is a lot of competition for Forensic Scientist roles, most Assistant Forensic Scientists have a degree, and some have a postgraduate qualification.

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