The Chartered Society of Forensic Sciences

Component Standard

Crime Scene Investigation

Purpose

To equip students with an understanding of and ability to perform the techniques involved in crime scene investigation whilst operating within a quality management system.

General Outcomes

Appropriate crime scene management and crime scene investigation is fundamental in ensuring the efficacy of subsequent laboratory-based forensic examination or analysis. In this sense, it is at the heart of forensic science practice. In many cases, it is impossible for laboratory analysis or post analysis interpretation to overcome shortcomings introduced at the crime scene investigation stage. Therefore, students should be equipped with both a theoretical and practical knowledge of sound crime scene processing techniques and be given sufficient time to practice those aspects that require skills development.

The course should be designed to enable the student to:

1. understand and describe:
   a) the roles, responsibilities and liabilities of all personnel involved in the processing of crime scenes *(individuals, items and locations)* with particular emphasis on police scientific support personnel such as Crime Scene Investigators (CSIs), Crime Scene Managers and Crime Scene Co-ordinators or their equivalents, plus Senior Investigating Officers (SIOs) and other police personnel;
   Extra information[1]: Students should have an understanding of the regulatory framework of their own jurisdiction and, where applicable, the role of ISO accreditation. In the UK (particularly in England and Wales), students should be aware of the Forensic Science Regulator's: Codes of Practice and Conduct and of the ACPO Good Practice Guide for Digital Evidence (current version) in as far as it pertains to crime scene processing;

   b) the roles of specialists who may attend crime scenes: for example: ambulance service personnel, anthropologists, archaeologists, pathologists, forensic medical examiners, scientists, fingerprint experts, bomb disposal experts, engineers, entomologists, fire service personnel, fire investigators, odontologists, CCTV data recovery / technical experts, photographers and surveyors;
   Extra information: Students should understand that there are the specialist emergency personal called for scene stabilisation - Police (First Attending Officers), Ambulance, Fire & Rescue (Army-Explosives Ordinance Disposal (EOD), Coastguard, RNLI, Structural engineers etc.). These individuals are called primarily to make the location safe (arrest suspects, offer first aid, ensure location is safe etc.) and any forensic issues are secondary.

   All personnel involved in stabilisation should have specific forensic awareness training so that they can minimise avoidable loss or degradation of potential evidence. However, critically, any activity undertaken by these individuals to preserve potential evidence must not compromise their personal safety or safety at the location.

   When the location has been stabilised and control measures are in place, an examination strategy for emergency personnel (and their vehicles) involved in 'stabilisation' should be in place for all incidents.

[1] Extra information: This represents further suggestions and clarification of the component standard - it is anticipated that this may be changed from time-to-time to reflect developments in forensic practice. The material provided in black can only be changed by the Society's Accreditation Sub-committee.

Additional experts may then be required and are coordinated by CS managers or CS coordinators who are also responsible for putting in place the steps required to minimise contamination of the scene by these people and how their attendance should be recorded.

Include with the examination strategy consideration for victims, suspects and witnesses remembering that it is often difficult to differentiate in early stages of an investigation;

c) the order in which specific examinations are to be carried out at the scene;

Extra information: For example examination for latent finger marks are usually last due to its intrusive / destructive nature;

2. describe and carry out the steps required for the preservation and documentation (including photography) of the crime scene, the systematic search for evidence and its collection, packaging and labelling. This standard also includes contamination avoidance procedures;
Extra information: This must include photography and other techniques required to locate, document, recover and package trace and contact trace evidence from particulates to traces such as marks and impressions, and bodily fluids. Consideration should be given to the need to fully document actions, decisions, and rationales. Students should be familiar with, and practised in, the means by which crime scenes are recorded, with particular emphasis on digital photography, log making, sketching and contemporaneous note taking. Critical elements to include a record of sufficient measurements and information (on diagrams, plans, annotated photographs, 3D laser scans or notes) to be able to return to the scene and replace (or identify exact original location of) all potential evidence recovered. This correct orientation should also be recorded when appropriate. Note the central role of photography in crime scene documentation. Courses should be designed to ensure that students have the opportunity to gain the necessary theoretical knowledge and practical experience to become proficient in routine crime scene photographic techniques and conversant with specialist methods of crime scene photography (such as specialist lighting techniques). The stipulations of this this standard should also extend to the steps required for the effective processing of digital evidence;

3. understand the principles and demonstrate the use of environmental samples / control and reference materials;
Extra information: this can cover a range of contact traces. Arguably, this has particular relevance when taking samples from crime scenes for DNA analysis. Students need to be given sufficient opportunity to master swabbing for DNA, including taking control (i.e. environmental) and buccal (i.e. reference) samples whilst minimising the opportunity for contamination. Students should also know how to take reference finger and palm prints, reference and scene footwear;

4. understand and describe the potential complexity of crime scene investigations (including those of incidents of volume crime (including vehicle crime) but specifically with reference to serious or major crime) and the many practical and legal constraints, including the need for timeliness, within which the investigator must work;
Extra information: This should include factors such as the sequential examination of crime scenes, effective documentation (see 2), and the role of forensic science and how it contributes to and interacts with the criminal justice system. Students should understand how the constraints mentioned in 4 shape forensic strategy;

5. demonstrate:
   a) an understanding of the information needs of all personnel involved in crime scene examination and the processing of items of physical evidence;
   b) an ability to convey information of this type in an appropriate form. Particular emphasis should be placed on the information that must be provided to and by CSIs, or their equivalents;

Extra information: Students must be given the opportunity to develop both the oral and written communication skills that are necessary for effective crime scene processing;

6. Have the skills to understand and explain both the evidential and intelligence value of information obtained by crime scene investigation;

Extra information: Students should understand the philosophical difference between the use of information for evidential and intelligence purposes. When used as evidence, the purpose is to compare the probability of obtaining that information if one proposition (i.e. that of the prosecution) is correct with the probability of it being obtained if another proposition (that of the defence) is true. When used as intelligence, the purpose is to use that information to establish the most likely explanation(s) for the presence of that information. Students should also understand how intelligence is converted into evidence and how:

- in any given case, information obtained by crime scene investigation is used to support the needs of the investigation as a whole and
- *to evaluate both potential forensic evidence in the context of a given investigative circumstance and case-specific evidential requirements;*

7. demonstrate a full understanding of the critical importance of crime scene investigation in the crime-scene-to-court chain and critically evaluate crime-scene-processing case studies;
Extra information: Students should understand how and why mistakes in crime scene processing can jeopardise the value of any subsequent forensic examination in the laboratory and the evidential value of materials and data obtained from the crime scene. They also need to be familiar with the strategies and procedures that should be used to minimise the chances of such mistakes being made. Furthermore, they should be aware of the types of analysis that can be used in the laboratory and the implications that these have for the strategies and methods used during crime scene processing. Case studies should be used to show how errors can occur and how they can be avoided. Students should have the opportunity to evaluate both real and fictitious case studies and thereby develop good crime scene processing practice;

8. maintain independence within the investigative process, and to understand the nature and potential impact of cognitive bias, and how the impacts of such bias can be minimised;
Extra information: Students should have knowledge of the academic evidence for the presence of cognitive bias and of a typology of that bias. They should understand the role of approaches such as the ACE-V method, as used in fingermark-fingerprint comparisons, in the minimisation of such bias. They should also have an understanding of the tension between the potential that contextual information has for enhancing the probative value of evidence and its potential to bring about cognitive bias;

9. describe and demonstrate adherence to safe working procedures;
Extra information: Students should have the opportunity to develop skills of dynamic risk assessment and those required for the creation of risk assessed standard procedures;

10. apply the skills and knowledge embodied in items 1 to 9 above to the investigation of a range of simulated crime scenes.
Extra information: Whilst underpinned by theory, crime scene processing is a practical subject. Students therefore need to experience the processing of a variety of realistic mock crime scenes (including vehicles) in order to gain the necessary practical skills. These can be indoor, outdoor, day or night.