



Australian Government

POLFOR031 Apply specialised forensic science techniques

Release: 1

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Modification History

Release	Comments
1	This unit was released in POL Police Training Package release 8.0

Application

This unit describes the skills required to apply specialised forensic techniques within crime scene investigations. This includes identifying, enhancing, recording, collecting, and analysing evidence. It applies to police personnel and forensic staff as part of the forensic investigation of crime or incident scenes. The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to, particularly those related to continuity of evidence, forensic information management, work health and safety (WHS) and quality management.

Candidates undertaking this unit would be required to work autonomously and as part of a team. They would demonstrate the ability to critically analyse and evaluate crime scene related evidence to develop and test hypotheses. Candidates would demonstrate knowledge of sciences as they apply to crime scene investigation. They would further perform specialised tasks requiring strong adaptability across a broad range of unpredictable contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Not applicable

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes of	Performance criteria describe the performance needed to demonstrate

the unit.	achievement of the element.
1. Assess biological and non-biological evidence	1.1 Identify physical characteristics of biological evidence materials to determine their evidentiary value. 1.2 Identify physical characteristics of non-biological evidence materials to determine their evidentiary value. 1.3 Recognise risks and hazards related to the evidence identified and apply mitigation strategies.
2. Record examinations using forensic digital imaging	2.1 Assess crime/incident scene to select forensic digital imaging technique/s. 2.2 Apply forensic digital imaging techniques in a methodical and sequential manner to record scene/incident/evidence. 2.3 Manage continuity of forensic digital imaging images used for specialist examinations.
3. Apply presumptive/confirmatory testing and enhancement techniques	3.1 Select advanced forensic techniques for the examination of trace/gross biological and non-biological evidence material. 3.2 Identify presumptive and/or confirmatory tests to determine sequence of forensic processing. 3.3 Conduct field based presumptive and/or confirmatory tests to determine the evidentiary value. 3.4 Select forensic enhancement techniques and their sequence to maximise evidentiary value. 3.5 Conduct forensic enhancement techniques to assist in identifying, recording, collecting and interpreting physical evidence.
4. Examine evidence found on/associated with a human body	4.1 Assess human body to locate evidence. 4.2 Select forensic techniques and their sequence to identify, record and collect evidence. 4.3 Apply forensic techniques to record and collect evidence from human body. 4.4 Interpret the nature of wounds/injuries to inform the investigation focus. 4.5 Interpret characteristics of human body associated with death to inform the investigation focus. 4.6 Compare available information with examination of human body to verify or disprove information.
5. Perform comparative / interpretative analyses of physical evidence	5.1 Identify comparative or interpretative analysis methodologies to maximise evidentiary value. 5.2 Apply comparative or interpretative analysis examinations to establish an opinion of inclusion/exclusion or insufficiency. 5.3 Acknowledge limitations of the information/evidence when providing an opinion. 5.4 Identify assumptions and factual premises on which evidence is based to support the opinion.

	5.5 Assess the opinion to determine whether it withstands scrutiny. 5.6 Justify opinions by explaining the process of reasoning.
6. Present expert opinion	6.1 Assess opinion using peer review. 6.2 Report opinion to inform investigation. 6.3 Prepare and present expert advice to inform stakeholders of outcomes of examinations and opinion evidence at Court. 6.4 Review opinion and delivery to identify future improvements.

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance. Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed in the table below.

The ability to interpret messages and text, record observations and evidence, communicate with purpose to different communities and audiences, plan and schedule tasks according to estimated timeframes, continuously seek to learn through on-the-job observations, solve problems, work with others in a team, plan and organise activities and self-manage behaviour are core foundation skills relevant to the policing context.

Skill	Description
Learning	Assess opinions using additional information. Build an understanding of risk mitigation activities.
Reading	Read and apply jurisdictional coronial and criminal legislation related to forensic investigation. Read, interpret and evaluate complex information related to forensic science techniques. Read and review examination results for reliability and justification. Read and compare recorded evidence data to draw conclusions/opinions.
Writing	Record observations and test data to assist in interpreting physical evidence. Conduct and record comparative analysis examinations.
Oral communication	Discuss examination results and conclusions with team members.
Numeracy	Apply principles of physics and perform calculations related to mechanics and motion, forces, trajectory, electricity.

Range of Conditions

Not applicable

Unit Mapping Information

This unit replaces but is not equivalent to *POLFOR001 Apply specialised forensic science techniques*

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=98c3984e-2cf1-48a8-8ed1-85e4b92e7351>

Assessment Requirements for POLFOR031 Apply specialised forensic science techniques

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Performance Evidence

The candidate must provide evidence on at least one occasion that they have met the elements and performance criteria and have demonstrated the ability to:

- assess characteristics of biological and non-biological evidence
- identify and apply advanced forensic techniques to enhance, record, collect and analyse evidence
- determine sequence of examinations
- perform comparative analyses through the application of advanced forensic techniques
- gather and record information
- apply scientific methodology to support forensic analyses, critical thinking and problem solving within a crime/incident scene investigation
- demonstrate forensic digital imaging techniques to record results, including exposure, lighting, viewpoints, and composition
- manage continuity of evidence
- use specialised forensic technology and equipment
- interpret and evaluate information critically to develop conclusions/opinions
- justify conclusions/opinions and their rationale
- liaise with peers to review opinions of self and others
- present opinion evidence and reflect on outcomes
- communicate information that includes the description of a complex opinion/point of view/argument in an articulate and informative manner to a wide range of audiences.

Knowledge Evidence

The candidate must provide demonstrated evidence that they have knowledge of:

- jurisdictional information management systems
- jurisdictional policies and procedures related to forensic investigations, including quality management systems, workplace health and safety, forensic digital imaging, and expert evidence
- fundamental principles of physics and their application within a forensic investigation (including mechanics and motion, forces, trajectory, electricity)

- fundamental principles of mathematics applied/calculated within a forensic investigation (including trigonometry, triangulation)
- fundamental principles of chemistry (including behaviour of acids and bases, catalytic reactions)
- fundamental principles of biology (including molecular biology, cell structure function and replication, serology)
- human anatomy and physiology (including terminology, structural organisation, body systems, death processes and indicators)
- scientific methodologies, inclusive of gathering and analysing information/data, developing and testing hypothesis, ongoing evaluation of hypothesis and ACE-V methodology
- limitations, human cognitive factors, and boundaries of specialist knowledge
- principles and definitions of comparative analysis (including pattern recognition, class, and individual characteristics)
- forensic enhancement techniques (including optical, physical, and chemical)
- supporting scientific principles and operating principles of specialised forensic techniques
- limitations and sensitivity of presumptive/confirmatory tests
- post-mortem medical process and procedures
- risks and hazards associated to specialised tasks for contexts
- current legislation, guidelines, and jurisdictional procedures pertaining to investigations, the legal provision of opinion evidence (including admissibility of expert evidence)
- range and strength of opinions available for the interpretation of results and awareness of impact on court.

Assessment Conditions

Assessment must occur in operational workplace situations or, where this is not available, in simulated situations that replicate workplace conditions. Assessors of this unit must satisfy relevant vocational education and training legislation, frameworks and/or standards.

Links

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