



Australasian Forensic Science
Assessment Body



AFSAB CRIME SCENE INVESTIGATION CANDIDATE GUIDE

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AFSAB CRIME SCENE CANDIDATE GUIDE

PURPOSE

This document provides guidance for candidates preparing to undergo the AFSAB assessment in Crime Scene Investigation. Details are provided regarding core and discipline competencies to be assessed, assessment structure and recommended resources.

BACKGROUND

AFSAB is committed to enhancing confidence in forensic science service delivery by certifying individuals to an agreed professional standard. The AFSAB assessment process is used to determine competency, focusing on demonstrable ability around eight core competencies. Each component of the assessment will examine the candidate's skills, knowledge, reasoning and abilities in tasks relevant to the operational requirements and practices, standards and contemporary issues relevant to the discipline. Core competencies that will be assessed are:

- ▶ Decision making
- ▶ Communication
- ▶ Critical thinking
- ▶ Problem solving
- ▶ Sequencing of examinations
- ▶ Technical knowledge
- ▶ Uncertainty
- ▶ Understanding limitations

These core competencies will be assessed in light of the discipline specific competencies, which represent the knowledge and skills required for a crime scene expert to meet competency requirements to perform their day-to-day role. A focus will be placed on both underpinning knowledge and principles, as well as jurisdictional processes where applicable and appropriate.

ASSESSMENT STRUCTURE

The AFSAB Crime Scene assessment will consist of the following:

Assessment Component	Length	Format	Total Available Marks
Written	3 hours	30 x multiple choice 20 x short answer 2 x long answer	105
Practical	2 days	Virtual crime scene examination – from recording and collection through to opinion evidence	176
Oral	3 hours	Panel discussion based on 2 x case files submitted by the candidate and virtual crime scene	200

It is expected that candidates will sit each assessment in the order presented in the table on the previous page. Each component will be assessed by a panel of three assessors – two from the candidate’s own jurisdiction and one external to the jurisdiction.

Candidates must achieve at least 75% to pass each of the written, practical and oral components. In addition, candidates must achieve at least 50% within each task for the practical assessment. In each assessment the average mark across the three assessors will be rounded to the nearest whole number.

Candidates must pass each component before progressing to the next assessment. In the event a candidate fails a component, they may apply to re-sit that component, and do not have to re-sit previously passed components if all assessments are completed within a two-year period. For further information on unsuccessful certification attempts refer to the *AFSAB Policy and Processes for Certification* (<http://www.anzpaa.org.au/forensic-science/resources/afsab>).

DISCIPLINE SPECIFIC COMPETENCIES

Eight discipline specific competencies will be assessed over the written, practical, and oral assessments. The weighting of competencies across each assessment component is determined by how the knowledge or skills would be presented or used by the candidate when performing their day-to-day role. A breakdown of each discipline specific competency is provided below:

INITIAL ASSESSMENT OF THE SCENE

Understanding of scene parameters, WH&S considerations (hazards/mitigations), examination planning, scene co-ordination, and specialist examinations.

CONTROL OF THE SCENE

Knowledge of crime scene control and preservation. This includes use of cordons, entry/exit locations, and security measures, along with issues relating to contamination and contamination minimisation.

EXAMINATION OF THE SCENE

Principles and techniques related to incident, crime scene and laboratory-based examinations. This includes (but is not limited to) the specific topics of:

- ▶ Sequence of Examinations
- ▶ Presumptive and Confirmatory Testing
 - ◆ Requirements
 - ◆ Techniques
 - ◆ Reactions
 - ◆ Considerations
- ▶ Types of Enhancements
- ▶ Chemical Enhancements
 - ◆ Types
 - ◆ Considerations

- ▶ Deceased Examination
 - ◆ Death Indicators
 - ◆ Timings
 - ◆ Considerations

RECORDING THE SCENE

Knowledge of the specialised forensic techniques available to crime scene investigators to capture and preserve evidence from a crime scene, including types of recording and technical photography. Quality and sufficiency of information may also need to be considered by the candidate.

EXHIBIT COLLECTION

Knowledge of exhibit collection techniques, packaging requirements and considerations, storage, and management. Important considerations by crime scene investigators such as exhibit analysis and prioritisation, contamination minimisation, degradation and loss of evidence will also form part of the assessment(s).

INTERPRETATION OF THE CRIME SCENE

Understanding and application of scene reconstruction principles to establish a sequence of events. Hypotheses development and assessment, including appropriate weighting of evidence and consideration of alternate hypotheses. The candidate's knowledge and skills relevant to communicating examination findings will also be examined.

LEGAL FRAMEWORK

Knowledge of the legal framework pertaining to a crime scene investigator giving evidence in court, including both factual and opinion evidence. This includes an understanding of expert evidence rules and code of conduct requirements relevant to the candidate's jurisdiction.

CONTEMPORARY ISSUES

Knowledge and awareness of contemporary issues relating to the crime scene discipline, or which have an impact on forensic science, as a whole. This includes (but is not limited to) topics such as:

- ▶ Types of Bias
- ▶ Assumptions and Limitations
- ▶ Scientific Validity and Reliability
- ▶ Proficiency Testing

Candidates are encouraged to read the resources listed at the end of this document to aid in preparation for their AFSAB assessments. Assessment material may be drawn from these resources.

WRITTEN ASSESSMENT

Core and discipline specific competencies will be assessed in a three-hour written assessment which will be supervised by one of the candidate's internal assessors or other AFSAB approved supervisor. Questions will be presented in three forms:

Multiple choice

Each multiple-choice question will be worth 1 mark. They will be presented as a question followed by four possible answers (A, B, C or D). Unless otherwise stated, candidates should select a single response.

Short answer

Short answer questions will consist of a brief prompt that requires a written response varying in length from one sentence (minimum) to several sentences. Short answer questions will be clearly marked as being worth either 2 or 5 marks depending on the complexity of the question and answer.

Long answer

Long answer questions will consist of a complex prompt that requires a written response that can vary in length but should be no longer than one page. All long answer questions will be worth 10 marks.

Question Style	Marks Available	Discipline Specific Competencies
Multiple Choice	1 mark	Initial Assessment of the Scene
		Control of the Scene
		Examination of the Scene
		Recording the Scene
		Exhibit Collection
		Interpretation of the Crime Scene
		Legal Framework
		Contemporary Issues
Short Answer	2 marks	Initial Assessment of the Scene
		Control of the Scene
		Examination of the Scene
		Recording the Scene
		Exhibit Collection
		Interpretation of the Crime Scene
		Legal Framework
		Contemporary Issues
Short Answer	5 marks	Initial Assessment of the Scene
		Examination of the Scene
		Exhibit Collection
		Interpretation of the Crime Scene
Long Answer	10 marks	Initial Assessment of the Scene
		Examination of the Scene
		Interpretation of the Crime Scene

PRACTICAL ASSESSMENT

The purpose of the practical component is to assess a candidate's knowledge, scene examination, scene management and interpretation skills. The practical assessment will be conducted over two days and be supervised by one of the candidate's internal assessors or other ANZPAA NIFS approved supervisor.

DAY 1

TASK 01

The first day of the practical assessment will focus on a candidate's ability to examine and document a complex major crime scene. The candidate will navigate through a computer based, interactive crime scene. Candidates will be given 8 hours to work through the interactive scene using a set of pro forma notes, sketch, and exhibit list templates.

Candidates must complete full examination notes in accordance with their local jurisdictional policies and procedures for examining a complex major crime scene. This includes the following:

- ▶ clearly documenting the scene through notes, sketches, and measurements where required
- ▶ recording evidence for collection
- ▶ outlining any presumptive and/or confirmatory testing to be conducted at the scene
- ▶ outlining any specific searching or enhancement techniques to be utilised at the scene

In addition, the examination notes must include the interpretation of evidence where appropriate. This may include, for example, the recording and interpretation of death indicators, bloodstain patterns and other physical evidence enabling a later reconstruction of events. All interpretation of evidence, including any conclusions or opinions made, must be supported in the notes through detailed observations and reasoning as required according to the candidate's local jurisdictional procedures.

DAY 2

The second day of the practical assessment will focus on a candidate's ability to interpret evidence, reconstruct scenes, and evaluate additional evidence. Candidates will be required to complete two separate written tasks. There will be no access to the interactive scene on Day 2.

TASK 02

In Task 02, candidates will be required to provide a probable sequence of events for the interactive scene examined the day prior. Candidates will have access to their notes, exhibit lists and sketches completed during the scene examination. There will be no photographs available of the scene. The sequence provided will be required to be supported through outlining the relevant observations recorded and exhibits collected. Any assumptions and limitations relating to the sequence of events must be clearly detailed.

TASK 03

In Task 03, candidates will be provided with further information relating to the interactive scene examined the day prior. This information may include:

- ▶ DNA and fingerprint results
- ▶ Exhibit photographs
- ▶ Autopsy results
- ▶ POI, victim and/or witness statements
- ▶ Investigator (Detective) information

- ▶ Technical Photographs from the Scene (available on request only, however they will only be provided at the discretion of the jurisdictional contact/assessment supervisor, after assessment against jurisdictional processes following the scene examination on Day 1 for Task).

Candidates will be required to further interpret and reconstruct the interactive scene examined. This will include critically reviewing the sequence of events developed previously (Task 02) and evaluating an alternate version of events.

PRACTICAL ASSESSMENT MARKING

All three tasks will be assessed according to the following marking rubric:

Mark	Equivalent Percentage Scale	Criteria
7-8	≥76%	<ul style="list-style-type: none"> ▶ Demonstrates advanced technical knowledge ▶ Succinctly communicated all details ▶ Displayed exceptional ability to critically analyse, interpret and evaluate ▶ Comprehensive ability to apply established theories to the specifics of their discipline
5-6	51% to 75%	<ul style="list-style-type: none"> ▶ Demonstrates sound technical knowledge ▶ Communicated key details ▶ Displayed sound ability to critically analyse, interpret and evaluate ▶ Adeptly applies established theories to the specifics of their discipline
3-4	26% to 50%	<ul style="list-style-type: none"> ▶ Demonstrates basic technical knowledge ▶ Communicated some detail ▶ Displayed some ability to critically analyse, interpret and evaluate ▶ Some ability to apply established theories to the specifics of their discipline
1-2	≤25%	<ul style="list-style-type: none"> ▶ Demonstrates limited technical knowledge ▶ Communicated limited detail ▶ Displayed little ability to critically analyse, interpret and evaluate ▶ Minimal ability to apply established theories to the specifics of their discipline

ORAL ASSESSMENT

The oral assessment will take the form of a panel discussion assessed by the two internal and one external assessors. The candidate will be required to submit copies of two finalised cases that are of a complex nature, covering work undertaken by them relating to major/serious crime or incidents. In addition, the interactive virtual scene examined by the candidate as part of the practical assessment phase will be utilised as an additional case file.

Interactive Scene Case File

The candidate will be provided a copy of their examination notes created during the practical assessment and the case analysis results 30 minutes prior to the oral assessment. The candidate may refer to the notes and analysis results during the oral assessment.

The panel may assess the candidate on any aspect of the interactive scene.

Jurisdictional Case Files

The applicant should only submit the forensic examination component of the brief of evidence. The two cases must be submitted to the internal jurisdictional contact no less than two weeks prior to the confirmed oral assessment date. Collectively, the two case files shall demonstrate experience in the following areas:

- > Leading forensic investigations
- > Management of multi-disciplinary crime scene(s)
- > Sequence of evidence collection and examination
- > Handling of deceased person(s)
- > Processing at least three additional evidence types (e.g. impression evidence, bloodstain pattern analysis, biological evidence, firearms, non-biological trace evidence, vehicles)
- > Provision of opinion evidence in the form of scene reconstruction or interpretation. If this is unavailable, a sub-class case file (e.g. bloodstain pattern analysis, impression evidence) may be used as an alternative.

AFSAB Case File Summary

The candidate is to complete a separate 'AFSAB Case File Summary' (Appendix 1) for each jurisdictional case file. The AFSAB Case File Summary should be attached to the front of each submitted case file.

Each case file shall include:

- > A selection of photographs (maximum 30) that best represent the examination of the crime scene
- > A copy of the primary scene examination notes and sketches
- > A copy of examination notes and sketches relating to important secondary scene, vehicles, person (victims or POIs) and exhibits
- > Exhibit list
- > Results of crime scene examination(s)
- > Relevant examination results or reports from other examiners or disciplines (if appropriate)
- > Statement or technical report
- > Peer review details

The case does not need to be finalised in court; however, all case examinations must be complete.

The candidate should be the lead examiner, or adopt the role of lead examiner, for any statement included in the two case files.

The panel may assess the candidate on any aspect of all the cases. In addition, candidates may be asked questions on any or all of the core discipline competencies.

ORAL ASSESSMENT MARKING

The oral assessment will be run over a maximum of three hours, and will be marked by the three assessors according to the following rubric:

Mark	Equivalent Percentage Scale	Criteria
7-8	≥76%	<ul style="list-style-type: none"> ▶ Demonstrated advanced technical knowledge ▶ Succinctly communicated all details ▶ Displayed exceptional ability to critically analyse, interpret and evaluate ▶ Comprehensive ability to apply established theories to the specifics of their discipline
5-6	51% to 75%	<ul style="list-style-type: none"> ▶ Demonstrated sound technical knowledge ▶ Communicated key details ▶ Displayed sound ability to critically analyse, interpret and evaluate ▶ Adeptly applies established theories to the specifics of their discipline
3-4	26% to 50%	<ul style="list-style-type: none"> ▶ Demonstrated basic technical knowledge ▶ Communicated some detail ▶ Displayed some ability to critically analyse, interpret and evaluate ▶ Some ability to apply established theories to the specifics of their discipline
1-2	≤25%	<ul style="list-style-type: none"> ▶ Demonstrated limited technical knowledge ▶ Communicated limited detail ▶ Displayed little ability to critically analyse, interpret and evaluate ▶ Minimal ability to apply established theories to the specifics of their discipline

NOTIFICATION OF ASSESSMENT OUTCOME

All assessments will be reviewed by all three assessors. Candidates will be provided with their assessment results and any relevant feedback within ten business days of completing each assessment.

If a candidate does not agree with an assessment result or certification recommendation, they are permitted to lodge an appeal or grievance in accordance with the AFSAB Certification Appeals and Grievance Process (contained within the *AFSAB Policy and Processes for Certification*).

RESOURCES

Candidates should review the following information prior to undergoing assessment. The material is focused on expanding a candidate's knowledge of legal factors and contemporary issues. Assessment material may be drawn from these documents.

1. Code of conduct/ rules of expert evidence relevant to your jurisdiction
2. Forensic Science Regulator. 2020. Cognitive Bias Effects Relevant to Forensic Science Examinations Issue 2. https://assets.publishing.service.gov.uk/media/5f4fc26ce90e074695f80977/217_FSR-G-217_Cognitive_bias_appendix_Issue_2.pdf. Sections 1, 2, 3 and 6 recommended as a minimum
3. van den Eeden CAJ, de Poot CJ, van Koppen PJ. 2016. Forensic expectations: Investigating a crime scene with prior information. *Science and Justice* 56: 475-481
4. van den Eeden CAJ, de Poot CJ, van Koppen PJ. 2019. The forensic confirmation bias: A comparison between experts and novices. *Journal of Forensic Sciences* 64: 120-126
5. Baber C, Butler M. 2012. Expertise in Crime Scene Examination: Comparing search strategies of expert and novice crime scene examiners in simulated crime scenes. *Human Factors: The Journal of the Human Factors and Ergonomics Society* 54:413-424
6. Wyatt D. 2014. Practising Crime Scene Investigation: Trace and contamination in routine work. *Policing and Society an International Journal of Research and Policy* 24:443-458



APPENDIX 1 – AFSAB CASE FILE SUMMARY



AFSAB CASE FILE SUMMARY

General Instructions:

Please prepare a brief synopsis of each jurisdictional case file submitted for AFSAB assessment (one summary document per case) by completing the information requested below. The summary for each case must be **no longer than 3 pages** in length. Please attach the completed summary to the front of the case file and submit to your nominated jurisdictional contact.

Candidate Name:	
Jurisdiction:	
Forensic Case Reference:	
Incident Type:	
Date:	
Location:	
Specialist Examination/s: E.g.: Chemical application/ enhancement, BPA, Impression evidence, Ballistic evidence, Trace evidence.	

Summary of incident in your own words. (Do not use a copy/paste from the jurisdictional management system or SITREP).

Provide a detailed description of the functions you undertook for this investigation. (Include actions regarding the seven elements of Crime Scene Investigation assessed by AFSAB.)

1. Initial assessment of the scene
2. Control of the scene
3. Examination of the scene
4. Interpretation of evidence
5. Recording
6. Exhibit Collection
7. Case Management



Summary of opinion evidence: (Include how you substantiated these opinions.)

References used to inform opinions. (These are in addition to your case notes/photographs etc. Examples include DNA forensic biologist reports, forensic pathology reports, reports from other expert witnesses, and academic literature.)