Proficiency testing
@ forensicfoundations

Scene Examination
(inc. presumptive testing & collection)

Receipt

Triage

Examination
(inc. subsampling)

Analysis

Case Interpretation

Reporting

Testing the end-to-end forensic process
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Background and test design

Proficiencytesting@forensicfoundations

Forensic Foundations’ Proficiency Tests are designed to address the following issues:

- Relevance to forensic science laboratories;
- Limitation of any potential context information;
- Knowledge of the ‘ground truth’ of the samples; and
- Cost affordability for the laboratories.

ISO17025:2017 identifies risk management as an integral component of any scientific testing. Forensic Foundations has adopted this approach and have designed their Proficiency Tests to address risks, where possible, at all stages of the forensic process. The table in Appendix A outlines some of the risks associated with each stage of the forensic process.

Forensic Foundations has also adopted the framework embodied in the AS 5388 ‘Forensic Analysis’ and the ISO 21043 ‘Forensic Sciences’ series of Standards. These Standards describe the forensic examination process from collection to reporting. Thus, all Forensic Foundations’ Proficiency Tests commence with item collection and/or receipt and all the subsequent examination / analysis steps, culminating in the reporting, thus reflecting actual forensic casework. Further detail regarding the inter-relatedness of all phases of the forensic process is described in Appendix B.

Forensic Foundations is accredited to ISO17043 ‘Conformity Assessment – General requirements for proficiency testing’. Currently forensic biology and chemical criminalistics are covered by the scope of accreditation.

Forensic Foundations’ Proficiency Tests comply with the requirements of:

- ISO17025:2017 General requirements for the competence of testing and calibration laboratories,
- Guidance on the Conduct of Proficiency Tests and Collaborative Exercises Within ENSFI (2014)

The Final Reports Forensic Foundations Proficiency Tests will be publicly available via the Forensic Foundations web site however individual laboratory results will remain confidential. Participating laboratories may use the report as outlined in their respective laboratory policies.

In addition to offering a program of proficiency tests, Forensic Foundation also offers a number of inter-laboratory collaborative trial. These trials are offered where the test is still in the development phase and/or the tests is niche and/or the field of study is not currently covered by our scope of accreditation.
Pricing structure

The pricing structure has been calculated to be affordable and flexible.

Please contact Forensic Foundations to discuss multiple test discounts.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost (inc freight)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proficiency Test</strong></td>
<td>AUD750</td>
</tr>
<tr>
<td>Test samples and associated paperwork will be provided.</td>
<td></td>
</tr>
<tr>
<td>Results to be submitted and reviewed.</td>
<td></td>
</tr>
<tr>
<td>Final report including manufacturer’s instructions provided for each test.</td>
<td></td>
</tr>
<tr>
<td><strong>Training Kit</strong></td>
<td>AUD250</td>
</tr>
<tr>
<td>Test samples, associated paperwork and the manufacturer’s instructions will be provided.</td>
<td></td>
</tr>
<tr>
<td>This test has no external review and can be used for training purposes.</td>
<td></td>
</tr>
<tr>
<td>The test is shipped following the distribution of the final proficiency test report</td>
<td></td>
</tr>
<tr>
<td><strong>Interlaboratory Collaborative Trial</strong></td>
<td>AUD500</td>
</tr>
<tr>
<td>Test samples and associated paperwork will be provided.</td>
<td></td>
</tr>
<tr>
<td>Results to be submitted and reviewed.</td>
<td></td>
</tr>
<tr>
<td>Final report including manufacturer’s instructions provided for each test.</td>
<td></td>
</tr>
</tbody>
</table>
### 2020 Program snapshot

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Discipline and subdiscipline</th>
<th>Summary of the Scenario</th>
<th>Last date for orders</th>
<th>Distribution</th>
<th>Results submitted</th>
<th>Final Report distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-1</td>
<td>Forensic Biology – Biological examination and DNA</td>
<td>A female complainant has been sexual assaulted. Participants will be provided with the complainant’s, medical samples and reference sample. Reference samples will also be provided from the suspects.</td>
<td>Closed</td>
<td>June 26 2020</td>
<td>July 2020</td>
<td></td>
</tr>
<tr>
<td>2020-2</td>
<td>Biology/ Crime Scene Examination -BPA</td>
<td>An elderly man attended the emergency department with lacerations to his head, face and arms. He has no recollection of how the injuries were sustained. A property is located which may be the scene of the assault. Is the blood staining at this property consistent with the injuries sustained? Participants will be provided with a detail description of the injuries and photographs of the scene.</td>
<td>Closed</td>
<td>July 24 2020</td>
<td>August 2020</td>
<td></td>
</tr>
<tr>
<td>2020-3</td>
<td>Fingerprint detection, enhancement and identification</td>
<td>Items collected from crime have been submitted for fingerprinting. The participant laboratory will be asked to examine the items for any latent fingerprint present. Enhancement techniques may be required. Any prints collected will need to be compared to comparison prints supplied. Participants will be provided with a number of paper-based items</td>
<td>Closed</td>
<td>August 28 2020</td>
<td>September 2020</td>
<td></td>
</tr>
<tr>
<td>2020-4</td>
<td>Chemical Criminalistics – Fibres</td>
<td>A break in and robbery occurred at a private home. Access was gained by breaking a window. Clothing from a number of suspects has been seized. Participants will be provided with samples of fabric collected from the broken glass and samples of the suspects’ clothing.</td>
<td>Delayed until further notice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020-5</td>
<td>Document Examination</td>
<td>A document has been located and seized by Police investigating a corruption allegation. The person whose signature is on the document denies signing it. The disputed and specimen signatures will be provided to participant laboratories, with a request to provide investigators with any information regarding the signature, and whether it is genuine. Participants will be provided with a number of high-quality images of the documents and signatures to examine.</td>
<td>June 2020</td>
<td>July 2020</td>
<td>September 2020</td>
<td>November 2020</td>
</tr>
<tr>
<td>2020-6</td>
<td>Chemical Criminalistics - Glass</td>
<td>A break in and robbery occurred at a private home. Access was gained by breaking a window. Clothing from a number of suspects has been seized. Participants will be provided with samples of the glass from the scene and the debris collected from the suspects’ clothing.</td>
<td>July 2020</td>
<td>August 2020</td>
<td>October 2020</td>
<td>December 2020</td>
</tr>
<tr>
<td>2020-7</td>
<td>Forensic Biology – Biological examination, BPA and DNA</td>
<td>Following the assault described in 2020-2, a number of suspects have been located. Participants will be provided with the clothing of the victim and of the 3 suspects.</td>
<td>August 2020</td>
<td>September 2020</td>
<td>November 2020</td>
<td>January 2021</td>
</tr>
<tr>
<td>Year</td>
<td>Subject</td>
<td>Description</td>
<td>Time Period</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020-8</td>
<td>Chemical Criminalistics – Architectural Paint</td>
<td>Entry to an unoccupied beach house was gained by jamming the backdoor. Both the door frame and the paint were damaged. Tools were collected from a number of persons known to police. Participants will be provided with samples of paint from the door frame and the tools collected for examination and possible comparison of any paint found to the reference sample.</td>
<td>September 2020</td>
<td>October 2020</td>
<td>December 2020</td>
<td>February 2021</td>
</tr>
<tr>
<td>2020-10</td>
<td>Forensic Biology – Biological examination and DNA -2</td>
<td>The complainant had been allegedly assaulted by an unknown number of assailants. Participants will be provided with the clothing of the complainant and the 3 suspects.</td>
<td>November 2020</td>
<td>December 2020</td>
<td>February 2021</td>
<td>April 2021</td>
</tr>
</tbody>
</table>

### Interlaboratory Collaborative Trials

<table>
<thead>
<tr>
<th>Year</th>
<th>Subject</th>
<th>Description</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-11</td>
<td>Forensic Palynology</td>
<td>Examination of botanical material adhering to plastic packaging of blocks of illicit drugs. Participants will be provided with tape lifts from the packaging.</td>
<td>Cancelled</td>
</tr>
<tr>
<td>2020-12</td>
<td>Digital Forensics</td>
<td>Examination of material stored in the ‘Cloud’ and comparison with material on seized computers.</td>
<td>Postponed until 2021</td>
</tr>
<tr>
<td>2020-13</td>
<td>Forensic Drug Analysis</td>
<td>Examination of chromatographs produced following the analysis of a number of unknown compounds located in an alleged Clandestine Laboratory.</td>
<td>August 2020</td>
</tr>
<tr>
<td>2020-9</td>
<td>Chemical Criminalistics – Ignitable fluid residue</td>
<td>A fire occurred in a residential dwelling. A sample of the carpet was collected, as the burn patterns indicted that it may have been deliberately lit. Participants will be provided with the sample of carpet.</td>
<td>October 2020</td>
</tr>
<tr>
<td>2020-14</td>
<td>Forensic Odontology</td>
<td>Examination and comparison of dental material.</td>
<td>October 2020</td>
</tr>
</tbody>
</table>
2020 Program in detail

2020-1 Forensic Biology – Biological examination and DNA

Scenario

A female complainant has been sexual assaulted. Participants will be provided with the complainant’s, medical samples and reference sample. Reference samples will also be provided from the suspects.

The following aspects of the forensic process will be examined:

<table>
<thead>
<tr>
<th>Step</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Results submitted</td>
<td>May 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>July 2020</td>
</tr>
</tbody>
</table>
Scenario

An elderly man attended the emergency department with lacerations to his head, face and arms. He has no recollection of how the injuries were sustained. A property is located which may be the scene of the assault. Is the blood staining at this property consistent with the injuries sustained? Participants will be provided with a detail description of the injuries and photographs of the scene.

Results submitted: June 2020
Final Report distributed: August 2020

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
2020-3 Fingerprint detection, enhancement and identification

Scenario

Items collected from crime have been submitted for fingerprinting. The participant laboratory will be asked to examine the items for any latent fingerprint present. Enhancement techniques may be required. Any prints collected will need to be compared to comparison prints supplied. Participants will be provided with a number of paper-based items.

<table>
<thead>
<tr>
<th>Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results submitted</td>
</tr>
<tr>
<td>Final Report distributed</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Scene Examination (inc. presumptive testing & collection)
- Analysis
- Case Interpretation
- Reporting
2020-4 Chemical Criminalistics – Fibres

Scenario

A break in and robbery occurred at a private home. Access was gained by breaking a window. Clothing from a number of suspects has been seized. Participants will be provided with samples of fabric collected from the broken glass and samples of the suspects’ clothing.

Delayed until further notice

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
2020-5 Document Examination

Scenario

A document has been located and seized by Police investigating a corruption allegation. The person whose signature is on the document denies signing it. The disputed and specimen signatures will be provided to participant laboratories, with a request to provide investigators with any information regarding the signature, and whether it is genuine. Participants will be provided with a number of high-quality images of the documents and signatures to examine.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>June 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>July 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>September 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>November 2020</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
2020-6 Chemical Criminalistics - Glass

Scenario

A break in and robbery occurred at a private home. Access was gained by breaking a window. Clothing from a number of suspects has been seized. Participants will be provided with samples of the glass from the scene and the debris collected from the suspects’ clothing.

The following aspects of the forensic process will be examined:

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>July 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>August 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>October 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>December 2020</td>
</tr>
</tbody>
</table>
2020-7 Forensic Biology – Biological examination, BPA and DNA

Scenario

Following the assault described in 2020-2, a number of suspects have been located. Participants will be provided with the clothing of the victim and of the 3 suspects.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>August 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>September 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>November 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>January 2021</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc.sampling)
- Analysis
- Case Interpretation
- Reporting
Scenario

Entry to an unoccupied beach house was gained by jamming the backdoor. Both the door frame and the paint were damaged. Tools were collected from a number of persons known to police. Participants will be provided with samples of paint from the door frame and the tools collected for examination and possible comparison of any paint found to the reference sample.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>September 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>October 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>December 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>February 2020</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
2020-9 Chemical Criminalistics – Ignitable fluid residue

Scenario

A fire occurred in a residential dwelling.
A sample of the carpet was collected, as the burn patterns indicted that it may have been deliberately lit.
Participants will be provided with the sample of carpet.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>October 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>November 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>January 2021</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>March 2021</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
Scenario

The complainant had been allegedly assaulted by an unknown number of assailants. Participants will be provided with the clothing of the complainant and the 3 suspects.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>November 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>December 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>February 2021</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>April 2021</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
Scenario

Examination of botanical material adhering to plastic packaging of blocks of illicit drugs. Participants will be provided with tape lifts from the packaging.

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
2020-12 Digital Forensics

Scenario

Examination of material stored in the ‘Cloud’ and comparison with material on seized computers.

Postponed until 2021

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
**2020-13 Forensic Drug Analysis**

**Scenario**

Examination of chromatographs produced following the analysis of a number of unknown compounds located in an alleged Clandestine Laboratory.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>August 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>September 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>November 2020</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>January 2021</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
Scenario

Examination and comparison of dental material.

<table>
<thead>
<tr>
<th>Last date for orders</th>
<th>October 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>November 2020</td>
</tr>
<tr>
<td>Results submitted</td>
<td>January 2021</td>
</tr>
<tr>
<td>Final Report distributed</td>
<td>March 2021</td>
</tr>
</tbody>
</table>

The following aspects of the forensic process will be examined:

- Receipt
- Triage
- Examination (inc. sampling)
- Analysis
- Case Interpretation
- Reporting
## Appendix A

<table>
<thead>
<tr>
<th>Phase</th>
<th>Internal context (Risk to organization)</th>
<th>External context (Risk to clients inc. justice system and community)</th>
</tr>
</thead>
</table>
| Scene / laboratory examination (inc. presumptive testing and collection) | Continuity  
- transcription errors,  
- issues relating to sealing of items,  
- incorrect descriptions,  
- sample mix up misidentification | • Absence of results where samples have not been collected / analyzed  
• False identification of substance / false inclusions  
• False exclusion  
• Results deemed inadmissible  
• Incorrect weight given to evidence  
• Miscarriages of justice |
| Receipt in organisation or individual work unit | Examination / analysis  
- samples not identified or incorrectly identified  
- samples not collected for testing  
- inappropriate examination / analytical method used | |
| Triage                                     | Interpretation / reporting  
- invalid or unsupported assumptions  
- contextual bias  
- incomplete | |
| Analysis                                   |                                                                                                        | |
| Case Interpretation                        |                                                                                                        | |
| Reporting                                  |                                                                                                        | |
Appendix B

Figure 1 — Relationship between the various components in the forensic process and the clauses within the ISO 21043 series
Forensic Foundations’ Proficiency Tests are required to be fit-for-purpose. To assist us to provide the relevant fit-for-purpose tests, please use the following form to suggest further tests for development.

**Recommendation for Proficiency Test development**

<table>
<thead>
<tr>
<th>Contact</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
</tbody>
</table>

**Discipline/ subdiscipline**

**Specific issues(s) to be addressed**.
Note: The tests can be designed to be multidisciplinary.

**Suggested technical advisor (if known)**

**Suggested manufacturer (if known)**

* All Proficiency Tests will include the end to end process (receipt & continuity, triage, description, examination, analysis, data generation, interpretation, reporting) but one aspect may be of particular interest/focus.

This form can be emailed to quality@forensicfoundations.com.au or you can discuss your suggestions on either +61 3 9018 8919 or +61 429 966 012.