Accredited Africa Training Institute for Capacity Development
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COURSE BROCHURE

Forensic Biology Evidence Value Explained

Law, Military Science and Security / Safety in Society

Unit Standard 242709 · NQF Level 5 · 12 Credits · 9 Days

COURSE OVERVIEW

This course equips learners with the ability to explain the evidential value of forensic biology examinations within the South African criminal justice system. It covers the scientific principles, collection, preservation, and analysis of biological evidence, and how such evidence contributes to legal proceedings. Learners will understand the role of forensic biology in linking suspects, victims, and crime scenes.

Category	Law, Military Science and Security
Subfield	Safety in Society
Unit Standard	242709
Accreditation	SAQA Accredited · NQF Level 5 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Explain the scientific principles underlying forensic biology examinations, including DNA analysis and serology.
- Evaluate the evidential value of different types of biological evidence such as blood, semen, saliva, and hair.
- Apply appropriate methods for the collection, preservation, and chain of custody of biological samples.
- Analyze case studies to determine how forensic biology evidence contributes to criminal investigations.
- Demonstrate the ability to interpret laboratory results and communicate their significance in a legal context.
- Assess the limitations and potential sources of error in forensic biology examinations.

WHO SHOULD ATTEND

- This course is designed for forensic science practitioners, crime scene investigators, laboratory technicians, and law enforcement officers who require a foundational understanding of forensic biology evidence.
- It is also suitable for legal professionals seeking to interpret biological evidence in court.

COURSE OUTLINE

Day 1: Introduction to Forensic Biology and Evidence

- What is forensic biology?
- Role of forensic biology in the justice system
- Types of biological evidence: blood, semen, saliva, hair, tissue
- Chain of custody: documentation and integrity
- Evidence value: probative vs. contextual
- Legal standards: admissibility and relevance
- Overview of SAQA and accreditation requirements

Day 2: DNA Structure, Function, and Analysis Basics

- DNA structure: double helix, nucleotides, base pairing
- DNA function: coding and non-coding regions
- DNA replication and cell division
- Forensic DNA markers: STRs, SNPs
- DNA extraction methods
- Quantification and amplification (PCR
- Sources of DNA: blood, buccal cells, touch DNA
- Factors affecting DNA: degradation, contamination, inhibitors

Day 3: Biological Evidence Collection and Preservation

- Collection techniques: swabbing, cutting, scraping
- Preservation: drying, refrigeration, freezing
- Contamination control: PPE, clean techniques
- Documentation: labels, seals, forms
- Packaging: paper bags, envelopes, containers
- Chain of custody: transfer and storage
- Case scenarios: crime scene to laboratory

Day 4: Serology and Body Fluid Identification

- Overview of serology: antigens, antibodies, enzymes
- Presumptive tests: Kastle-Meyer, luminol, acid phosphatase
- Confirmatory tests: RSID, microscopic identification
- Alternative light sources: UV, forensic light sources
- Bloodstain pattern analysis basics
- Semen detection: PSA, microscopy
- Saliva detection: amylase test
- Limitations and false positives/negatives

Day 5: DNA Profiling and Interpretation

- STR loci and multiplex PCR
- Capillary electrophoresis and electropherograms
- Allele calling and profile generation
- Mixed DNA profiles: interpretation challenges
- Statistical calculations: random match probability, likelihood ratios
- Database searching: CODIS, national databases
- Reporting guidelines and expert testimony

- Case examples: single-source vs. mixtures

Day 6: **Non-Human Forensic Biology**

- Animal DNA: species identification, individualization
- Plant DNA: cannabis, timber, poaching
- Microbial forensics: bioterrorism, food safety
- Wildlife crime: CITES, rhino horn, ivory
- Soil and pollen analysis
- Legal admissibility of non-human evidence
- Case studies: animal attacks, crop contamination

Day 7: **Quality Assurance and Laboratory Management**

- Quality management systems
- ISO 17025 requirements for forensic labs
- SANAS accreditation process
- Quality control: controls, standards, validation
- Contamination prevention: workflow, cleaning, monitoring
- Proficiency testing: internal and external
- Audits: internal, external, corrective actions
- Laboratory safety: biological hazards, chemicals, waste

Day 8: **Evidence Evaluation and Reporting**

- Evidence evaluation: relevance, reliability, weight
- Report structure: findings, methods, conclusions
- Statement writing: factual, unbiased, understandable
- Courtroom testimony: direct and cross-examination
- Expert witness responsibilities
- Ethical issues: bias, confidentiality, integrity
- Case review: critique of reports and testimony

Day 9: **Integration and Case Studies**

- Complex case studies: sexual assault, homicide, paternity
- Integrating DNA, serology, and non-human evidence
- Cold cases and DNA databases
- Emerging technologies: NGS, rapid DNA, phenotyping
- Ethical and legal challenges
- Capstone case analysis and presentation
- Review of key concepts and assessment

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **12 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 35,000.00	**R 35,000.00**
1	In-House	R 45,500.00	**R 45,500.00**
1	On-Campus (Pretoria)	R 52,500.00	**R 52,500.00**

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	20 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	21 Aug 2026	On-Campus	Pretoria, South Africa
12 Aug 2026	24 Aug 2026	On-Campus	Abu Dhabi, UAE
13 Aug 2026	25 Aug 2026	On-Campus	Durban, South Africa
13 Aug 2026	25 Aug 2026	On-Campus	Mauritius
14 Aug 2026	26 Aug 2026	On-Campus	Cape Town, South Africa
17 Aug 2026	27 Aug 2026	On-Campus	Pretoria, South Africa
18 Aug 2026	28 Aug 2026	On-Campus	Abu Dhabi, UAE

Contact us if no suitable date is listed — on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit **www.aaticd.co.za**, open the page for this course (Unit Standard 242709) and click **Get A Quote / Apply**. Select your training method and number of delegates — your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to **apply@aaticd.co.za** — our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically — the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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