No. 919

14 September 2006



SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Forensic Science

Registered by Organising Field 08, Law Military Science and Security, publishes the following Qualification and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualification and Unit Standards. The Qualification and Unit Standards can be accessed via the SAQA web-site at <u>www.saqa.org.za</u>. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standards should reach SAQA at the address *below* and no later than 13 October 2006. All correspondence should be marked Standards Setting – SGB for Forensic Science and addressed to

> The Director: Standards Setting and Development SAQA *Attention: Mr. D Mphuthing* Postnet Suite 248 Private Bag X06 Waterkloof 0145 or faxed to 012 – 431-5144 e-mail: <u>dmphuthing@saga.org.za</u>

S BHIKHA DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



QUALIFICATION:

National Certificate: Forensic Science

SAQA QUAL	ID QUALIFICATION	QUALIFICATION TITLE			
57651	National Certificat	National Certificate: Forensic Science			
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic	Science	8			
QUAL TYPE		ORGANISING FIELD DESCRIPTION	N SUBFIELD		
National Certifi	cate	Law, Military Science and Security	Safety in Society		
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS		
Undefined	120	Level 5	Regular-Unit Stds Based		

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

Qualified learners will be able to apply their skills in a forensic science laboratory in either the public or private sectors. The qualified learner will work under the direction of a forensic scientist or senior forensic scientist on a daily basis and assist the laboratory to analyse forensic evidence in order to determine its evidential value for a specific case. Qualified learners will know the elementary principles underlying evidential value and examination techniques in the following forensic science fields: biology, ballistics, questioned documents, criminalistics and chemistry. The qualified learner will be able to assist in the operations of a forensic science laboratory via the calibration of measurement instruments, and the documentation of results in prescribed formats. Qualified learners will be able to present specialised forensic evidence in support of the expert evidence in a court of law. The principles of forensic science can be applied to the field of policing. In the private and public sectors qualified learners will be able to deliver efficient forensic services by implementing good business practice. Learners accredited with this qualification will also be able to identify, investigate, analyse and implement solutions for problems that traverse the different specialised fields within forensic science.

Qualifying learners will be able to:

- > Analyse the value and role of forensic science.
- > Apply analytical evaluative thought processes within a scientific context.
- > Comply within current legal and criminal justice systems.
- > Apply business practices within the field of forensic science.

When accredited with this qualification learners will be able to provide specialised supportive evidence in court, which will open up the legal and criminal justice systems for the qualified learner. Through their knowledge of these systems and processes, they will be able to apply their scientific knowledge to serve justice in South Africa.

By completing this qualification a learner will have a better understanding of the field of forensic science, and be able to make informed decisions regarding further career choices. This qualification will afford learners the opportunity to discover the exciting opportunities each of the fields in forensic science has to offer. It will pave the way towards a career in forensic science.

Rationale:

The challenges of safety in society are multi-levelled and complex, especially in the scientific arena. In order to serve justice, forensic science has to be developed to its full potential. In this effort it has to fulfil its role as a specialised field within the physical sciences and its role within the law enforcement service. However it is in its role as a scientific instrument to serve justice that forensic science has much to offer in South Africa.

The field of forensic science has multiple entry levels, and it current does not offer an introductory level qualification for learners who wish to embark on a career in forensic science in South Africa.

This qualification serves as an introduction into the field of forensic science, and will afford learners the opportunity to conceptualise the positioning of forensic science within the sciences and within the criminal justice system. Through this qualification the law enforcement agencies will be able to rely on the expertise of graduating learners in their combined efforts to serve the criminal justice system. This qualification will add value to current forensic science training on a national level, and will enhance the quality of forensic science services in South Africa.

South Africa as a nation will benefit from the higher conviction rates that will be possible, when learners are empowered with expertise that will minimise human-error in the plethora of systems and processes that ultimately are linked, and work in concert to prepare case-related forensic evidence for the court.

This qualification will calibrate the entry level of qualification obtained in the field of forensic science, and thus assist in setting the standard for entrance into this professional field. It is foreseen that this qualification will be followed by others, on higher NQF levels, and together this set of qualifications will firmly establish the standard of forensic science training in the country. This qualification will do so for the learner entering the field of forensic science. Moreover it will formalise the qualification at this level for those already working in forensic science.

The introduction of a qualification based on unit standards will allow learners to attain their full potential, allowing them to embark on a career in forensic science. Moreover, it will allow other professions that are linked to forensic science the opportunity to achieve knowledge of this specific field and its multiple sub-fields. The role of forensic science, in the context of science will be clear. In addition, learners will be able to place forensic science in the context of the criminal justice system.

The qualification will be a vehicle of transformation within the forensic science sector. It will allow the opportunity for learners to achieve its outcomes via multiple avenues, such as recognition of prior learning, informal and formal learning, and enable learners to demonstrate their competencies irrespective of how it was obtained and developed. Learners will obtain a qualification that is registered on the NQF and is benchmarked at an international level, thereby establishing a world-class standard in the forensic science profession in South Africa.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

- > Mathematics at NQF level 4.
- > Communication at NQF level 4.
- > Physical science at NQF level 4.

Recognition of Prior Learning:

This qualification may be achieved in part or in whole by recognition of prior learning. The candidate in this case must be assessed and or evaluated in the same manner as described in the above paragraph entitled Integrated Assessment.

Access to the qualification:

Although access to this qualification is at FETC level 4 to all learners with NQF 4 or equivalent (i.e. grade 12), it is important to note that learners without a clear understanding of mathematics and science might find it difficult to successfully complete this qualification. Learners with certain physical disabilities, such as colour blindness, may not be able to successfully complete this qualification. This is due to the fact that some of the forensic science techniques that learners will have to master require that the learner be able to make distinction between different colours.

QUALIFICATION RULES

> All fundamental unit standards must be completed (22 credits).

- > All core unit standards must be completed (65 credits).
- > A minimum of 33 credits must be chosen from the elective component.
- > When an elective stream is chosen all the unit standards in that stream must be completed.

The elective unit standard category is open-ended to allow the learner to choose the credits associated with the elective unit standards from related disciplines which would add value to the qualification.

EXIT LEVEL OUTCOMES

On achieving this qualification, learners will be able to:

- 1. Analyse the importance and role of forensic science.
- 2. Apply analytical evaluative thought processes within a scientific context.
- 3. Comply within current legal and criminal justice systems.
- 4. Apply business practices within the field of forensic science.

Critical Cross Field Outcomes:

> Identify and solve problems in which responses display that responsible decisions, using critical thinking, have been made.

- > Work effectively with others as a member of a team, group, organisation or community.
- > Organise and manage oneself and one's activities responsibly and effectively.
- > Collect, analyse, organise and critically evaluate information.

> Communicate effectively using visual, mathematical, and/or language skills in the modes of written and/or oral presentation.

> Use science and technology effectively and critically, show responsibility towards the environment and the health of others.

> Demonstrate an understanding of the world as a set of related systems by recognising that problemsolving contexts do not exist in isolation.

> Contribute to the full personal development of each learner and the social and economic development of the society at large, by making it the underlying intention of any programme of learning to make an individual aware of the importance of:

> Reflecting on and exploring a variety of strategies to learn more effectively.

- > Participating as responsible citizens in the life of local, national and global communities.
- > Being culturally and aesthetically sensitive across a range of social contexts.

ASSOCIATED ASSESSMENT CRITERIA

1.

> Fields within forensic science are compared in order to establish their inter-relationships.

> The purpose of fields within forensic science is assessed in order to establish their place within the sciences.

> Forensic science practices are explained with examples.

2.

- > Analytical thinking skills are applied within the forensic science field.
- > Own interpretation skills are promoted during the application of the analytical thought process.
- > Deductions based on scientific evidence is made, and applied in support of the forensic science findings.
- > Mathematical and statistical principles are applied in support of scientific forensic findings.
- > Strategies to solve problems are formulated in order to inform decision making in a structured scenario.

3.

> The principles of evidence handling and recovering are applied within the current legal framework.

> The link between the purpose of forensic science and the justice system is analysed in order to function within the justice system.

> The presentation of findings is demonstrated within a court of law.

> The link between forensic science and its influence on forensic investigation and intelligence is determined in order to enhance the evidential value of forensic science.

4.

> Communication strategies are implemented to ensure effective channels of information flow.

> Professional performance is managed according to ethical practices in the forensic science field.

- > A work environment is assessed against prescribed safety principles.
- > Quality management systems are maintained within a forensic science context.

Integrated assessment:

The applied competence (practical, foundational and reflective) of this qualification will be achieved if a learner is able to achieve all exit level outcomes of the qualification. The identification and solving of known problems, team work, organising self, using of data, implication of actions and reactions in the world as a set of related systems must be assessed during any combination of practical, foundational and reflective competencies assessment methods and tools to determine the individual development and integration of

applied knowledge and skills.

Certain exit level outcomes are measurable and verifiable through assessment criteria assessed in a single assessment. Applicable assessment tool(s) to establish the foundational, reflective and embedded knowledge to problem solving and application of the world as a set of related systems within the Policing environment. Competence will be assessed when conducting formative and summative assessment.

The assessment criteria for formative assessment are described in the various unit standards. Formative assessment takes place during the process of learning and assessors should use a range of assessment methods and tools that support each other to assess total competence.

The assessment methods and/or tools used by the assessor must be fair in a sense that they do not hinder or advantage the learner, valid in a sense that they measure what they intend to measure, reliable in a sense that they are consistent and delivers the same output across a range of learners and practical in a sense that they take into account the available financial resources, facilities, equipment and time.

Summative assessment and terminal assessment are carried out at the end of the learning programme to assess the achievement of the learner. A detailed portfolio of evidence is required to prove the practical, applied and foundational competencies of the learner.

INTERNATIONAL COMPARABILITY

The National Certificate Forensic Science was compared to courses presented in international qualifications, on the basis of their content and the respective aspects or fields addressed.

1. National Institute of Justice (NIJ) Report:

The NIJ published a report that embodies the best practice, entitled "Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students", in June 2004. The Technical Working Group for Education and Training in Forensic Science consisted of forty eight (48) representatives of "forensic science educators, laboratory directors, forensic science trainers, education professionals, prosecutors, and defence attorneys" from the United States.

The Technical Working Group identified the following professional skills as "essential to an individual's effectiveness as a forensic science professional": critical thinking (quantitative reasoning and problem solving), decision making, good laboratory practices, awareness of laboratory safety, observation and attention to detail, computer proficiency, interpersonal skills, public speaking, oral and written communication, time management and prioritisation of tasks. In addition the following knowledge, skills and abilities were deemed as essential for pre-employment preparation: quality assurance, ethics, professional standards of behaviour, evidence control, report writing, scientific method, inductive and deductive reasoning, statistics, and safety.

The following core elements were identified for a forensic science curriculum: introduction to law/justice system, ethics/professional practice, forensic science specialty overview, evidence identification, collection, and processing, quality assurance, courtroom testimony, technical or scientific writing. Model criteria for training programmes were identified as:

> Standards of conduct - includes professional ethics training.

> Safety - includes biological, chemical, and physical hazards.

> Policy - includes such administrative and laboratory policies as standard operating procedures, quality assurance, accreditation, and security.

> Legal - includes expert testimony, depositions, rules of evidence, criminal and civil law and procedures, and evidence authentication.

> Evidence handling - includes interdisciplinary issues; recognition, collection, and preservation of evidence; and chain of custody.

> Communication - includes written, verbal, and nonverbal communication skills; report writing; exhibit and pretrial preparation; and trial presentation.

The above guidelines represent international best practice in the field of forensic science education and training. All of the above aspects are extensively addressed in the qualification, on occasion in separate unit standards. The qualification is thus calibrated on an international best practice level.

2. North America:

In addition to the NIJ report twenty-seven (27) forensic science qualifications from seventeen (17) education and training providers were compared to the qualification. The qualification compares well with qualifications

from North America in terms of the scope and depth of the qualification. Aspects included in the core of the qualification were also identified as essential in qualifications from this continent.

3. South America:

Chile has the most comparable infrastructure and socio-economic development levels to that of South Africa. It is thus an excellent benchmark for this qualification in terms of the development of specialised services and the training of specialised forensic science officers. As in the qualification, the training programmes in Chile also addressed the formative and holistic development of the learner. The training programmes in Chile compare well with the qualification, and both address formative aspects, developmental aspects, as well as specialised courses (i.e. the electives of the qualification) for specialised environments.

4. Europe:

Qualifications from the following countries were compared: United Kingdom and British Isles, Turkey, Italy, India, Switzerland, Germany and Poland. Europe and the United States are regarded as the world leaders of forensic science training and education. Twenty-two (22) forensic science qualifications and sixteen (16) unit standards from thirteen (13) education and training providers were compared to the qualification. The qualification is in line with the level of training and education of this continent, and address the common core and elective components of qualifications in this region.

5. Other Countries:

Qualifications from the following countries were compared to the qualification: Australia, New Zealand, the Philippines and Mauritius. Fifteen (15) qualifications from six (6) providers were compared, and the qualification was found to be in alignment with forensic science education and training in these countries.

6. Africa:

No formal forensic science education and training current exists on the continent. Twenty three (23) universities from sixteen (16) African countries were investigated for forensic science training programmes. In 2004 an African Forensic Sciences Service Workshop was hosted by South Africa, and representatives from the following countries attended: Botswana, Kenya, Lesotho, Malawi, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The outcome of the meeting was that no forensic science education and training programs existed in Africa. All the countries in attendance indicated a need for a qualification in forensic science. The National Certificate Forensic Science qualification could therefore be used as a benchmark for entry level Forensic Science qualifications in Africa.

ARTICULATION OPTIONS

This qualification was developed for entrance into the forensic science profession, and will raise the standard of practice in this sector. It is applicable to large and small entities. It builds on the learner's previous knowledge and serves multiple sub-fields within forensic science. It provides articulation with a variety of qualifications in the physical sciences, business and policing.

> Horizontally with the following qualifications:

- > National Certificate: Policing at NQF 5, 20496
- > National Certificate: Resolving of Crime at NQF 5, 49118
- > National Diploma: Bomb Disposal at NQF 5, 49124
- > National Diploma: Policing at NQF 5, 48865
- > National Certificate: Business Management at NQF 5, 22452
- > Vertically with the following qualifications:

>National Certificate Business Advising Operations at NQF 6, 48967
 > Bachelor Policing Practices at NQF 6, 50194

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant ETQA.

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> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQAs policies and guidelines for assessment and moderation; in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies); and in terms of the moderation guideline detailed immediately below.

> Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards as well as the integrated competence described in the qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

For an applicant to register as an assessor, the applicant needs:

> Registration as an assessor with the relevant ETQA.

> Assessors must be competent in the outcomes and exit level outcomes of this qualification.

> Detailed documentary proof of educational qualification, practical training undergone, and experience gained by the applicant must be provided (portfolio of evidence).

NOTES

This qualification forms the foundation for forensic science education and training in South Africa, and its overriding intention is to formalise forensic science as a scientific discipline within the NQF.

The South African Council for Natural Scientific Professions (SACNSP) was established via the Natural Scientific Professions Act, 2003 (Act 27 of 2003). Currently this act provides for the registration of the following three categories: Professional Natural Scientist (Pr.Sci.Nat.), Candidate Natural Scientist (Cand.Sci.Nat.), and Certificated Natural Scientist (Cert.Sci.Nat.). None of these categories currently include the learner who has earned a one year certificate. However, the registration of individuals at professional bodies is not static and this qualification will assist in professionalising this area of work.

UNIT STANDARDS

(Note: A blank space after this line means that the qualification is not based on Unit Standards.)

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	114589 Manage time productively	Level 4	4	Registered
Core	110464 Monitor the quality system in the laboratory	Level 5	8	Registered
Core	114863 Implement basic safety procedures in emergencies	Level 5	3	Registered
Core	115790 Write and present for a wide range of purposes, audiences and contexts	Level 5	5	Registered
Core	115855 Create, maintain and update record keeping systems	Level 5	5	Registered
Core	117452 Apply the principles of Law of Evidence in the investigation of crime	Level 5	4	Registered
Core	119038 Preserve evidence on a scene	Level 5	3	Registered
Core	120489 Demonstrate understanding of the criminal justice system	Level 5	9	Registered
Core	242708 Demonstrate an understanding of the specialised fields in forensic science	Level 5	5	Draft - Prep for P Comment
Core	242711 Develop elementary calibration systems for mass pieces, balances and pipettes	Level 5	7	Draft - Prep for P Comment
Core	242712 Demonstrate an understanding of forensic science	Level 5	3	Draft - Prep for P Comment
Core	242716 Demonstrate knowledge of temperature calibration measurements	Level 5	3	Draft - Prep for P Comment
Core	242707 Assimilate and present specialised evidence in a court of law	Level 6	6	Draft - Prep for P Comment
Elective	114598 Demonstrate an understanding of an entrepreneurial profile	Level 4	5	Registered
lective	117494 Comply to legal requirements in business	Level 4	7	Registered
Elective	117497 Apply basic business principles	Level 4	10	Registered
lective	120079 Provide support to victims of serious violent crime	Level 4	4	Registered
lective	120372 Explain fundamentals of project management	Level 4	5	Registered
lective	115821 Apply business financial practices	Level 5	4	Registered
lective	116488 Justify disclosure or non-disclosure of information in an ethical framework	Level 5	5	Registered
lective	120479 Demonstrate understanding of community policing	Level 5	4	Registered
lective	120480 Demonstrate understanding of crime prevention	Level 5	6	Registered

Elective	120483 Conduct preliminary investigations	Level 5	6	Registered
Elective	120485 Receive and attend to complaints	Level 5	5	Registered
Elective	120494 Demonstrate understanding of proportionality of force	Level 5	8	Registered
Elective	242709 Explain the evidential value of forensic biology examinations	Level 5	12	Draft - Prep for P Comment
Elective	242710 Demonstrate an understanding of the evidential value of forensic biology evidence	Level 5	12	Draft - Prep for P Comment
Elective	242713 Demonstrate an understanding of the field of forensic biology	Level 5	6	Draft - Prep for P Comment
Fundamental	15096 Demonstrate an understanding of stress in order to apply strategies to achieve optimal stress levels in personal and work situations	Level 5	5	Registered
Fundamental	117637 Demonstrate an understanding of the composition and dynamics of a creative team.	Level 5	5	Registered
Fundamental	242706 Analyse information	Level 5	4	Draft - Prep for P Comment
Fundamental	242714 Apply elementary statistical methods	Level 5	5	Draft - Prep for P Comment
Fundamental	242715 Interpret forensic science information	Level 5	3	Draft - Prep for P Comment



UNIT STANDARD:

1

Analyse information

SAQA US ID	UNIT STANDARD TITLE Analyse information				
242706					
SGB NAME	I	ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic	Science	8			
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	4	Level 5	Regular		

SPECIFIC OUTCOME 1

Analyse a problem.

SPECIFIC OUTCOME 2

Solve a problem.

SPECIFIC OUTCOME 3

Implement a solution.



UNIT STANDARD:

2

Assimilate and present specialised evidence in a court of law

SAQA US ID	UNIT STANDARD TITLE				
242707	Assimilate and present specialised evidence in a court of law				
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic Science		8			
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	6	Level 6	Regular		

SPECIFIC OUTCOME 1

Prepare for giving specialised evidence in court.

SPECIFIC OUTCOME 2

Adhere to legal requirements when giving specialised evidence in court.

SPECIFIC OUTCOME 3

Reflect on the provision of specialised evidence in court.

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Demonstrate an understanding of the specialised fields in forensic science

SAQA US ID	UNIT STANDARD TITLE				
242708	Demonstrate an understanding of the specialised fields in forensic science				
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic Science		8			
UNIT STAND	ARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	5	Level 5	Regular		
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SPECIFIC OUTCOME 1

Demonstrate an understanding of the components of forensic science fields.

SPECIFIC OUTCOME 2

Describe the types of examinations in the forensic science fields.

SPECIFIC OUTCOME 3

Describe the legal framework in which forensic science operates.



UNIT STANDARD:

4

Explain the evidential value of forensic biology examinations

SAQA US ID	UNIT STANDARD TITLE					
242709	Explain the evidential value of forensic biology examinations					
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME			
SGB Forensic Science		8				
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION			
Regular		Law, Military Science and Security	Safety in Society			
ABET BAND	CREDITS	NQFLEVEL	UNIT STANDARD TYPE			
Undefined	12	Level 5	Regular			

SPECIFIC OUTCOME 1

Demonstrate an understanding of the principles of presumptive testing for body fluids.

SPECIFIC OUTCOME 2

Explain the purpose and types of individualisation techniques.

SPECIFIC OUTCOME 3

Explain evidential concepts of DNA typing.



UNIT STANDARD:

5

Demonstrate an understanding of the evidential value of forensic biology evidence

SAQA US ID	UNIT STANDARD TITLE				
242710	Demonstrate an understanding of the evidential value of forensic biology evidence				
SGB NAME	L	ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic Science		8			
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	12	Level 5	Regular		

SPECIFIC OUTCOME 1

Apply the collection process of forensic biological evidence in a structured scenario.

SPECIFIC OUTCOME 2

Explain the preservation and packaging procedures of forensic biological evidence.

SPECIFIC OUTCOME 3

Assess contamination risks of forensic biological evidence.



UNIT STANDARD:

6

Develop elementary calibration systems for mass pieces, balances and pipettes

SAQA US ID	UNIT STANDARD TITLE					
242711	Develop elementary calibration systems for mass pieces, balances and pipettes					
SGB NAME	L	ORGANISING FIELD ID	PROVIDER NAME			
SGB Forensic Science		8				
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION			
Regular		Law, Military Science and Security	Safety in Society			
ABET BAND	CREDITS	NQFLEVEL	UNIT STANDARD TYPE			
Undefined	7	Level 5	Regular			

SPECIFIC OUTCOME 1

Define the concepts and methodology of uncertainty of measurement.

SPECIFIC OUTCOME 2

Analyse the contributors to uncertainty of measurement.

SPECIFIC OUTCOME 3

Define the need for measurement methods/procedures for calibration.

SPECIFIC OUTCOME 4

Develop a measurement procedure for calibration.

SPECIFIC OUTCOME 5

Perform a calibration.



UNIT STANDARD:

7

Demonstrate an understanding of forensic science

SAQA US ID	UNIT STANDARD TITLE Demonstrate an understanding of forensic science				
242712					
SGB NAME	<u> </u>	ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic Science		8			
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	3	Level 5	Regular		

SPECIFIC OUTCOME 1

Explain the difference between forensic science and other physical sciences.

SPECIFIC OUTCOME 2

Explain the role of forensic science with other sectors.

SPECIFIC OUTCOME 3

Describe the fields within forensic science.



UNIT STANDARD:

8

Demonstrate an understanding of the field of forensic biology

SAQA US ID	UNIT STANDARD TITLE				
242713	Demonstrate an understanding of the field of forensic biology				
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME		
SGB Forensic Science		8			
UNIT STANDA	RD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION		
Regular		Law, Military Science and Security	Safety in Society		
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE		
Undefined	6	Level 5	Regular		

SPECIFIC OUTCOME 1

Demonstrate an understanding of the physiological characteristics of semen used in forensic biological examinations.

SPECIFIC OUTCOME 2

Explain the elementary physiological characteristics of blood which are used in forensic.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the elementary structure of deoxyribonucleic acid (DNA).



UNIT STANDARD:

9

Apply elementary statistical methods

SAQA US ID	UNIT STANDARD TITLE					
242714	Apply elementary statistical methods					
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME			
SGB Forensic Science		8				
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION			
Regular		Law, Military Science and Security	Safety in Society			
ABET BAND	CREDITS	NQFLEVEL	UNIT STANDARD TYPE			
Undefined	5	Level 5	Regular			

SPECIFIC OUTCOME 1

Explain the use of statistical variables.

SPECIFIC OUTCOME 2

Demonstrate the use of elementary statistical methods.



UNIT STANDARD:

10

Interpret forensic science information

SAQA US ID	UNIT STANDARD TITLE					
242715	Interpret forensic science information					
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME			
SGB Forensic Science		8				
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION			
Regular		Law, Military Science and Security	Safety in Society			
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE			
Undefined	3	Level 5	Regular			

SPECIFIC OUTCOME 1

Analyse the use of information storage formats.

SPECIFIC OUTCOME 2

Interpret gathered information in terms of its relevance in intelligence.



UNIT STANDARD:

11

Demonstrate knowledge of temperature calibration measurements

SAQA US ID	UNIT STANDARD TITLE					
242716	Demonstrate knowledge of temperature calibration measurements					
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME			
SGB Forensic Science		8				
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION			
Regular		Law, Military Science and Security	Safety in Society			
ABET BAND	CREDITS	NQFLEVEL	UNIT STANDARD TYPE			
Undefined	3	Level 5	Regular			

SPECIFIC OUTCOME 1

Demonstrate understanding of the concept temperature.

SPECIFIC OUTCOME 2

Measure temperature using laboratory reference thermometers.