No. 330 **27 March 2009**

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

Aerospace Operations

registered by Organising Field 10 – Physical, Mathematical, Computer and Life Sciences, 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 full Qualification and Unit Standards can be accessed via the SAQA web-site at **www.saqa.org.za**. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standards should reach SAQA at the address below and ***no later than 27 April 2009.*** All correspondence should be marked **Standards Setting – SGB for Aerospace Operations** and addressed to

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Diploma: Aircraft Performance Engineering

SAQA QUAL ID	*QUALIFICATION TITLE*		
66109	National Diploma: Aircraft Performance Engineering		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
QUALIFICATION TYPE	*FIELD*	*SUBFIELD*	
National Diploma	10 - Physical, Mathematical, Computer and Life Sciences	Physical Sciences	
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUAL CLASS*
Undefined	371	Level 6	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

The purpose of the Qualification is to provide learners and education and training providers with the standards required to satisfy the challenges of participating effectively in the Flight Operations Support environment which needs to maintain impeccable standards. The Qualification will be useful to both new entrants into the service, and existing workers in the sector. For those who have been in the workplace for a long time, this Qualification can be used in the recognition of prior learning process to assess and recognise workplace skills acquired without the benefit of formal education and training. For the new entrant, this Qualification will give them the opportunity to orient themselves within a new sector, and to develop and balance their practical skills with the essential knowledge needed to earn a formal Qualification in Flight Operational Support without formal education becoming an impassable barrier.

For education and training providers, this Qualification provides guidance for the development of appropriate learning programmes and assessment documentation. For employers, this Qualification enables skills gaps to be identified and addressed ensuring that a safe and efficient flight dispatch/support environment is supported and maintained. The combination of learning outcomes that comprise this Qualification will provide the qualifying learner with vocational knowledge and skills appropriate to the context of flight support operations. The learner will have an understanding of the flight dispatch environment and how he or she should operate within the legislative, safety and quality systems which govern it. It will also equip learners with a foundation for further intellectual development, opportunities for gainful employment and reward for contributions to society.

The Qualification aims to equip learners to produce flight dispatch/support information and monitor operational situations and flight progress in order to ensure the safe and efficient completion of a flight by providing a service which is flawless.

Rationale:

This Qualification is aimed at people who work or intend to work within a Flight Operations Support environment. Typical candidates will be either career flight dispatchers or persons

wishing to progress from other areas of flight operations in to flight dispatch work or from flight dispatch in to other areas of flight operations. In the past many practitioners in the Flight Operations Support area were denied mobility of employment, as a result of a lack of formal Qualifications.

This Qualification will also facilitate the development of a professional community of Flight Operation Support personnel who are able to contribute towards a safe and efficient environment through the application of enhanced knowledge and skills relating to the production of flight dispatch information to aircrew and the provision of in-flight tactical support. The competencies contained in this Qualification are essential for social and economic transformation, empowerment and upliftment within the Flight Operations Support environment, whilst simultaneously improving the skills base of the aerospace industry. This Qualification facilitates further learning in the aerospace operations environment as well as ensuring compatibility and compliance with international regulations and standards and industry best practice.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED IN PLACE

Learners accessing the Qualification will have demonstrated competence in:

> Mathematics at NQF Level 5.
> Communication at NQF Level 5.

Recognition of Prior Learning:

The structure of this Qualification makes the Recognition of Prior Learning possible through challenging the Exit Level Outcomes and Unit Standards. This Qualification may therefore be achieved in part through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience. The learner should be thoroughly briefed on the mechanism to be used and RPL assessors should provide support and guidance. Care should be taken that the mechanism used provides the learner with an opportunity to demonstrate competence and is not so onerous as to prevent learners from taking up the RPL option towards gaining a qualification.

If the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this qualification and/or unit standards, the appropriate credits should be assigned to the learner. Recognition of Prior Learning will be done by means of Integrated Assessment.

Access to the Qualification:

> Access is open to all learners bearing in mind the learning assumed to be in place.

It is recommended that learners complete:

> ID 59256: National Diploma: Flight Dispatch at NQF Level 5.

QUALIFICATION RULES
The Qualification is made up of a combination of learning outcomes from Fundamental, Core and Elective components, totalling a minimum of 371 Credits.

Fundamental component:
> All Unit Standards to the value of 35 credits are compulsory.

Core component:
> All Unit Standards to the value of 315 credits are compulsory.

Elective component:

> The elective component consists of individual Unit Standards from which the learner must choose Unit Standards based on the area in which they work or in which they are interested. Learners are required to choose Unit Standards totalling a minimum of 21 credits.

EXIT LEVEL OUTCOMES

1. Demonstrate knowledge and understanding of safe processes and procedures in the field of flight operations support.

2. Produce aircraft operational support data for the safe and efficient completion of an air operation.

3. Control aircraft weight and balance.

4. Publish and provide aircraft performance and operational support data.

5. Conduct performance forensic audits to ensure flight safety and efficiency.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcomes 1:

1.1 The legal framework which governs flight operations support is explained in terms of requirements and minimum standards.
1.2 Non-compliant situations/scenarios are identified and evaluated in order to take action to rectify these.
1.3 Non-standard events and situations are determined in terms of their impact on flight operations and safety.

Associated Assessment Criteria for Exit Level Outcomes 2:

2.1 Aircraft performance characterises are determined in accordance with national and international requirements.
2.2 The way in which aircraft performance data shall be used is explained and discussed with operating crew and dispatchers to safely and efficiently conduct a flight.
2.3 Airport and flight path characteristics are explained in terms of aircraft performance.
2.4 Corrections are applied for the effects of aircraft configurations and atmospheric conditions.

Associated Assessment Criteria for Exit Level Outcomes 3:

3.1 Aircraft weight is accurately explained and calculated considering all the required data for the `flight and aircraft.
3.2 Aircraft basic weight is determined based on the particular aircraft involved.
3.3 Centre of gravity index is determined in order to ensure that an aircraft is loaded and trimmed for operational flight.
3.4 The human factors that can affect and influence the aircraft weight and balance are explained in order to take appropriate actions to ensure compliance.

Associated Assessment Criteria for Exit Level Outcomes 4:

4.1 South African Civil Aviation Regulations (SA-CARs) and South African Civil Aviation Technical Specifications (SA-CATS) are explained with examples.

4.2 Flight crew and operational support staff are supplied with the information required in accordance with time frames for each flight.
4.3 Balance and trim sheet data (AHM560) is produced in accordance with national and international regulations.
4.4 The produced aircraft performance and operational support data is assessed in terms of compliance with the aircraft manufacturer's structural and performance limitations.

Associated Assessment Criteria for Exit Level Outcomes 5:

5.1 Flight planning principles, aircraft performance, fuel burn characteristics, weight and trim effects are explained with examples pertaining to each aircraft type and model.
5.2 Data is gathered and extracted from aircraft monitoring system, flight schedules and planning data.
5.3 Data is analysed and utilised to identify and explain anomalies in order to correct planning reference material.
5.4 Findings are reported in order to maintain accuracy of flight planning and level of aircraft performance and observed anomalies.

Integrated Assessment:

The importance of integrated assessment is to confirm that the learner is able to demonstrate applied competence (practical, foundational and reflexive) and ensure that the purpose of this Qualification is achieved. Both formative and summative assessment methods and strategies are used to ensure that Exit Level outcomes and the purpose of this Qualification are achieved.

Formative assessment is an on-going process which is used to assess the efficacy of the teaching and learning process. It is used to plan appropriate learning experiences to meet the learner`s needs. Feedback from assessment informs both teaching and learning. If the learner has met the assessment criteria then s/he has achieved the Exit Level Outcomes of the Qualification.

Summative assessment is concerned with the judgement of the learning in relation to the Exit Level Outcomes of the Qualification. Such judgement must include integrated assessment(s) which test the learners` ability to integrate the larger body of knowledge, skills and attitudes, which are represented by the Exit Level Outcomes.

Integrated assessment must be designed to achieve the following:

> An integration of the achievement of the Exit Level Outcomes in a way that reflects a comprehensive approach to learning and shows that the purpose of the Qualification has been achieved.
> Judgement of learner performance to provide evidence of applied competence or capability.

INTERNATIONAL COMPARABILITY
The purpose of this International Comparability study is to facilitate the development of a meaningful learning path and its associated curriculum incorporating both theoretical and practical vocational skills which will ensure compatibility, comparability and compliance with existing training standards for ICAO signatories. South Africa, as a signatory to these ICAO standards is obliged to comply with ICAO Standards and Recommended Practices (ISARPS). Thus this International Comparability exercise is made directly with the ICAO Standards and NOT with training offered by individual countries.

The following countries are examples of signatories to ICAO and therefore this Qualification is indirectly compared to training and development offered in these particular countries:

> Australia.

> Brazil.
> Canada.
> Egypt.
> Germany.
> Japan.
> Kenya.
> Mauritius.
> New Zealand.
> Reunion.
> Seychelles.
> Singapore.
> Thailand.
> United Arab Emirates.
> United Kingdom.
> United States of America.

There is currently no qualification available in the SADC community, which satisfactorily addresses the international requirement for relevant formal skills and competency development within the International Civil Aviation Flight Technical Support and Flight Dispatch environments.

Certain member states have Dispatcher licensing requirements and programmes in line with ICAO requirements. However, where licensing is not a requirement ICAO prescribes that training for Dispatchers should be conducted as if it were a requirement. Currently South African Flight Dispatchers are not required to be licensed. However, the SACAA is in the process of formulating ICAO compliant regulations in respect of licensing.

Aircraft manufacturers generally provide training in performance and weight and balance so as to ensure the correct operation of their aircraft. Due to our remote geographic location, South Africa has on occasion been requested to provide training and operational support to other SADC airlines.

The requirements for flight technical support are articulated at length in:

> International Civil Aviation Organisation (ICAO) Annexes 1and 6.
> ICAO Doc 7192 Part D 1998.
> Federal Aviation Authority (FAA) Code of Federal Regulations (CFR) Part 121.
> International Air Transport Association (IATA) Operational Safety Audit Standards (IOSA), and European Aviation Safety Association (EASA) Joint Aviation Authority (JAA) JAR-OPS 1.

The deficiencies inherent in the non-application of the ICAO and IOSA Standards are highlighted when IATA member airlines seek to enter into code share agreements with other IATA member carriers. IOSA Standards address and stress at length both adherence to these training and qualification standards and the administration of such training and certification. Non-compliance on the part of a carrier being subjected to audit will negate any code share agreement being concluded.

The IOSA Standards encapsulate not only all the relevant ICAO, FAA and JAA standards and regulations but include all that which is considered by the international aviation community to be reflective of best practice, even that which exceeds the statutory requirements in some cases. European Union States, particularly the Western States, are increasingly introducing ICAO compliant training at industry level.

European Union States, particularly the Western States, are increasingly introducing ICAO compliant training at industry level.

Credibility and portability of training currently provided within South Africa is amply demonstrated by the ready acceptance internationally of successful candidates and the attendance of both European Union and Gulf based carriers at training intervention presentations.

This Qualification complies with the ICAO specifications as set out in Document 7192 part D3, which has the following subject matter:

> IATA Operations Control Flight Operations - Phase 1.
> Navigation - General.
> Aviation Meteorology.
> Radio and Radio Aids.
> Weight and Balance.
> Principles of Flight.
> Aircraft Performance.
> Flight Planning.
> Extended Twin Operations (ETOPS).
> Human Factors (Dispatcher Resource Management/Crew Resource Management).
> IATA Dangerous Goods Regulations.
> Restricted Radio Telephony Licence.
> Minimum Navigation Performance Specifications (MNPS).
> Reduced Vertical Separation Minima (RVSM).
> Alarm Notification.
> Emergency Planning.
> Air Operators Certificate.
> Categorisation of Airfield Rescue and Fire Fighting Services.
> Company Operations Manual.
> IATA Airport Handling Manual Ground Handling Agreements.
> Slot Allocation and Flow Control.
> Euro Control.

Plus:

> Organisational Ab-initio Training Programmes.
> Organisational Structured On-the-job Training, Coaching and Mentoring.
> Organisational Computerised Flight Planning.
> Organisational Annual Competency Checks.
> Organisational Recurrent Training.
> Organisational Route and Flight Deck Familiarisation Flights.

In most international airlines, the Flight Operations Technical Support is described as an Aircraft Performance Engineering and the incumbents are aeronautical engineers with university or college qualifications. There is currently no qualification available in South Africa, or the SADC community, which satisfactorily addresses the international requirement for relevant formal skills and competency development within the international civil aviation Flight Operations Technical Support environments per se.

Aircraft manufacturers generally provide training in performance and weight and balance so as to ensure the correct operation of their aircraft types. Due to our remote geographic location, South African Airways has on occasion been requested to provide such training and operational support to other SADC airlines.

Conclusion:

As an imperative to both attaining and maintaining international comparability in the context of civil aviation industry related training and qualification, the establishment of a suitable and

relevant qualification is well justified. All the contents shown above are either contained in the South African Qualification as Unit Standards or Specific Outcomes within specific Unit Standards. It must also be noted that some of the above content is also found in the learning assumed to be in place.

ARTICULATION OPTIONS
Horizontal articulation is possible with:

> ID 58579: National Diploma: Air Traffic Control, NQF Level 6.
> ID 58008: National Diploma: Aircraft Piloting, NQF Level 6.
> ID 60071: National Certificate: Engineering, NQF Level 6.
> ID 49744: National Diploma: Engineering Technology, NQF Level 6.

Vertical articulation is possible with:

> ID 64429: Bachelor of Science: Engineering, NQF Level 7.
> ID 49509: Bachelor of Technology: Engineering Technology, NQF Level 7.
> ID 63450: National Certificate: Certified Engineering, NQF Level 7.
> ID 58494: National Certificate: Forensic Engineering Investigation, NQF Level 7.

MODERATION OPTIONS
> This Qualification will be internally assessed and externally moderated by a moderator registered by the relevant accredited ETQA or an ETQA that has a Memorandum of Understanding with the accredited ETQA. Providers should establish or refine existing moderation procedures and systems at their institutions with a view to aligning them with the requirements of the relevant ETQA.

> The learner's performance/results should be moderated by one or more external moderators. Moderators should report not only on the standard of achievement but also on the validity and reliability of the assessment strategies, design and criteria in relation to the purpose and Exit Level Outcomes of the Qualification.

> Moderators must be competent at the level of the Qualification and registered with the relevant accredited ETQA to ensure that the standard is consistent. Moderators must also be registered assessors with the relevant ETQA. A relevant accredited ETQA will monitor and quality assure moderation and assessment according to the guidelines in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS
For an applicant to register as an assessor, the applicant should:

> Be registered as an assessor with the relevant ETQA or an ETQA that has a memorandum of understanding with the relevant ETQA.
> Be in possession of a relevant Qualification at NQF Level 7 or higher.

NOTES
People who attempt this Qualification need to be aware that Special Operations and Special Rules Areas include but are not limited to Extended Twin Operations/Long Range Operations (ETOPS/LROPS), Decompression, Reduced Vertical Separation Minima (RVSM), Minimal Navigational Performance Specifications (MNPS), Decision Point Procedure (DPP), Re-dispatch Decision Point (RDP), non-normal aircraft configurations, Random Navigation (RNAV), Least Time Track and Mach Number Technique.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	243278	Analyse and apply safety principles in aviation	Level 6	5

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	117439	Disseminate information	Level 6	15
Fundamental	244193	Evaluate, analyse, interpret and communicate information in a complex designated area of responsibility	Level 6	15
Core	246519	Assure own publishing project output quality	Level 5	5
Core	120042	Interpret meteorology for aviation	Level 5	7
Core	120158	Analyse the effects of aeroplane loading	Level 6	4
Core	263026	Calculate aircraft speeds and brake and wheel limitations	Level 6	4
Core	263084	Determine field and climb performance	Level 6	40
Core	262825	Determine landing performance	Level 6	30
Core	263016	Determine non-normal take-off performance	Level 6	45
Core	262986	Examine airport and flight path characteristics	Level 6	30
Core	262987	Monitor and analyse aircraft performance	Level 6	40
Core	263004	Perform operational planning	Level 6	45
Core	263008	Produce flight planning information	Level 6	25
Core	263009	Produce weight and balance information	Level 6	40
Elective	120303	Apply principles of risk management	Level 5	8
Elective	115855	Create, maintain and update record keeping systems	Level 5	5
Elective	120045	Demonstrate understanding of aircraft instrumentation	Level 5	6
Elective	243816	Develop a project quality management plan for a simple to moderately complex project	Level 5	6
Elective	117871	Facilitate learning using a variety of given methodologies	Level 5	10
Elective	114883	Measure value-added, multi factor and total factor productivity within an organisation	Level 5	10
Elective	243330	Perform planning for an Instrument Flight Rules flight	Level 5	2
Elective	114069	Administer security systems for a multi-user computer system	Level 6	15
Elective	244196	Analyse and critically evaluate safety management systems	Level 6	6
Elective	243287	Perform pre-flight planning for large aeroplanes	Level 6	11

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION
None

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UNIT STANDARD:

Determine landing performance

SAQA US ID	*UNIT STANDARD TITLE*		
262825	Determine landing performance		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	30

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Establish landing field performance.

SPECIFIC OUTCOME 2
Provide for non-standard aircraft landing configurations.

SPECIFIC OUTCOME 3
Produce go-around thrust setting tables.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Examine airport and flight path characteristics

SAQA US ID	*UNIT STANDARD TITLE*		
262986	Examine airport and flight path characteristics		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	30

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Analyse aerodrome characteristics.

SPECIFIC OUTCOME 2
Analyse obstacle clearance.

SPECIFIC OUTCOME 3
Analyse engine out flight path.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Monitor and analyse aircraft performance

SAQA US ID	*UNIT STANDARD TITLE*		
262987	Monitor and analyse aircraft performance		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	40

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Audit aircraft performance.

SPECIFIC OUTCOME 2
Monitor experienced block times.

SPECIFIC OUTCOME 3
Determine aircraft cruise speeds.

SPECIFIC OUTCOME 4
Administer fuel burn retention guarantees.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform operational planning

SAQA US ID	*UNIT STANDARD TITLE*		
263004	Perform operational planning		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	45

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Develop a route.

SPECIFIC OUTCOME 2
Determine payload ability.

SPECIFIC OUTCOME 3
Determine fuel requirements for route optimisation.

SPECIFIC OUTCOME 4
Minimise cost of operation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Produce flight planning information

SAQA US ID	*UNIT STANDARD TITLE*		
263008	Produce flight planning information		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	25

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Create fuel burn tables.

SPECIFIC OUTCOME 2
Create flight planning tables.

SPECIFIC OUTCOME 3
Adjust fuel burn tables for use in flight planning.

SPECIFIC OUTCOME 4
Provide weight and balance data for automated dispatch control systems (AHM560).

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Produce weight and balance information

SAQA US ID	***UNIT STANDARD TITLE***		
263009	Produce weight and balance information		
ORIGINATOR		***PROVIDER***	
SGB Aerospace Operations			
FIELD		***SUBFIELD***	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	***UNIT STANDARD TYPE***	***NQF LEVEL***	***CREDITS***
Undefined	Regular	Level 6	40

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Determine Basic Weight and Centre of Gravity (CG).

SPECIFIC OUTCOME 2
Determine dry operating weight (DOW).

SPECIFIC OUTCOME 3
Determine average passenger weight.

SPECIFIC OUTCOME 4
Produce balance chart/trim sheet.

SPECIFIC OUTCOME 5
Produce electronic weight and balance data (AHM560).

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Determine non-normal take-off performance

SAQA US ID	*UNIT STANDARD TITLE*		
263016	Determine non-normal take-off performance		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	45

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Adjust take off performance according to runway conditions.

SPECIFIC OUTCOME 2
Calculate aircraft field length performance for non-standard aircraft braking configuration.

SPECIFIC OUTCOME 3
Calculate aircraft performance for non-standard aircraft configuration deviations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Calculate aircraft speeds and brake and wheel limitations

SAQA US ID	***UNIT STANDARD TITLE***		
263026	Calculate aircraft speeds and brake and wheel limitations		
ORIGINATOR		***PROVIDER***	
SGB Aerospace Operations			
FIELD		***SUBFIELD***	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	***UNIT STANDARD TYPE***	***NQF LEVEL***	***CREDITS***
Undefined	Regular	Level 6	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Determine aircraft take off speeds.

SPECIFIC OUTCOME 2
Establish landing reference speeds.

SPECIFIC OUTCOME 3
Calculate brake and wheel cooling periods.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Determine field and climb performance

SAQA US ID	*UNIT STANDARD TITLE*		
263084	Determine field and climb performance		
ORIGINATOR		*PROVIDER*	
SGB Aerospace Operations			
FIELD		*SUBFIELD*	
10 - Physical, Mathematical, Computer and Life Sciences		Physical Sciences	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 6	40

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1
Establish field length performance limits.

SPECIFIC OUTCOME 2
Optimise take off climb performance.

SPECIFIC OUTCOME 3
Calculate and produce thrust setting tables.

SPECIFIC OUTCOME 4
Ascertain missed approach climb performance.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	66109	National Certificate: Aircraft Performance Engineering	Level 6