No. 29 **19 January *2007***

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, subfields, 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*** 79 February 2007. All correspondence should be marked **Standards** Setting – **Aerospace Operations** addressed **to**

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Diploma: Aircraft Piloting

SAQA QUAL ID	*QUALIFICATION TITLE*		
58023	National Diploma: Aircraft Piloting		
SGB		*PROVIDER*	
SGB Aerospace Operations			
ETQA			
o			
QUALIFICATION TYPE	*FIELD*	*SUBFIELD*	
National Diploma	10 - Physical, Mathematical, Computer and Life Sciences	Physical Sciences	
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUAL CLASS*
Undefined	**240**	Level **5**	Regular-Unit Stds Based
REGISTRATION STATUS	*SAQA DECISION NUMBER*	*REGISTRATION STARTDATE*	*REGISTRATION END DATE*
Draft - Prep for P Comment			

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

This qualification enables the learners to develop towards becoming a career-pilot which is achieved by showing critical decision-making, safety, situational awareness, application of resourcefulness, intuition, judgment, competence, reason, ethics, integrity, and responsibility, to the management and operation of safe, efficient and comprehensive national and international aerospace systems. Pilots operate in a complex, highly stressful time-critical environment that demands rapid application of acquired competencies.

The occupations, jobs or areas of activity in which the qualifying learners will typically operate in are as pilots, in flight operations, aviation safety, aviation regulation and accident investigations. The qualification has been designed to allow for the personal development of the pilot and forms part of a progression pathway towards endorsements, licensing and aerospace management and command. This qualification therefore provides a vehicle through which competencies and provision can be standardised. The way in which the pathway can be navigated is through the achievement of clusters of unit standards that facilitate various military endorsements/licences and civilian pilot licences such as Commercial Pilot Licence aeroplane (CPL-A) and Commercial Pilot Licence helicopter (CPL-H).

Qualifying learners will be able to:

o Display airmanship that results in flight operations that comply with national and international aviation standards.
• Fly an aircraft.
o Range: flying includes all phases of flight during day and night, under visual meteorological conditions and as a single pilot or as a member of a crew.
• Display an understanding of resource management in the context of aviation operations.
o Plan and conduct flight operations in order to achieve stated objectives in accordance with national and international aviation standards.
o Apply knowledge of the physical environment within the aviation context.

Rationale:

The aerospace industry provides an effective domestic, regional and international mode of transportation. It also provides support efforts in national and regional security as well as support to peace support efforts and foreign aid missions. The aerospace industry is a key role player in the transport sector, search and rescue operations, disaster relief, providing humanitarian aid, environmental management and the promotion of aviation in the Southern African Development and Economic Community (SADC) region. This qualification reflects the need and demand within the aerospace environment for pilots who will be able to perform operational functions involving complex skills and attributes of international processes, procedures and legislation contextualised within the aerospace environment. Learners who have achieved this qualification will contribute to reduction of risk in the aerospace industry.

This qualification provides for learners who are pursuing piloting careers within the aerospace industry and is one of several in a learning pathway that has been created. It provides learners with opportunities for development and career advancement within the broader constituencies of the aerospace community that will contribute to providing a safe, secure and prosperous aerospace environment. This qualification contributes to the South African aerospace industry, which strategically impacts on the Sovereignty of the State, crime prevention and the development of the national and regional economy.

This qualification has been generated in accordance with the international legal framework and also provides a vehicle to bring South African piloting standards in line with international best practice.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED TO BE IN PLACE
- Communication at Level 4. (Communication level 4 ideally in International Civil Aviation Organisation (ICAO) defined English in accordance with South African Civil Aviation Authority requirements)
- Mathematics at Level 4.
- Physical science Level 4.

Recognition of Prior Learning

The structure of this qualification makes the Recognition of Prior Learning possible through challenging the associate Exit Level Outcomes. This qualification may therefore be achieved in part or completely 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 support and guidance should be provided. 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 the appropriate credits should be assigned to the learner. Recognition of Prior Learning will be done by means of Integrated Assessment as mentioned above. Learners are cautioned however that some competencies acquired through some non-formal learning may possibly not be recognised for pilot licensing purposes.

Access to the Qualification

- Open access. Learners who do not satisfy international aviation medical requirements will be limited in terms of completing the qualification.

QUALIFICATION RULES
- Learners must complete all 71 credits in the fundamental component.
- Learners must complete all ***86*** credits in the core component.
- Learners must complete 83 credits from the elective component of the qualification.

Learners must choose either one of two categories of elective streams: Fixed wing or rotary wing to the value of 21 credits. Learners must complete all listed unit standards in one of these two categories:

Fixed wing:

- Perform pre-flight planning for a small aeroplane.
- Perform take-offs and landings including go-arounds in an aeroplane.
- Perform slow flight, stalls and spin recovery in an aeroplane.
- Perform advanced manoeuvres and procedures in an aeroplane.

Rotary wing:

- Perform pre-flight planning for a helicopter.
- Perform air taxi, take-offs, departures, landings, go-arounds and hovering in a helicopter.
- Perform off-airport operations in a helicopter.
- Perform advanced manoeuvres and procedures in a helicopter.

Thereafter learners must choose an additional 62 credits from the remaining electives to complete the credit value of the qualification.

Learners wishing to find employment within the Military Aviation environment must complete the following unit standards from the remaining elective component:

- Conduct close formation flying.
- Perform low level flying operations.
- Perform planning for an Instrument Flight Rules flight.
- Perform instrument flight procedures.
- Perform aerobatic maneuvers.
- Perform routine test flying in an aircraft.

EXIT LEVEL OUTCOMES

1. Display airmanship that results in flight operations that comply with national and international aviation standards.
- Range: airmanship includes safety.

2. Fly an aircraft.
- Range: flying includes all phases of flight during day and night, under visual meteorological conditions and as a single pilot or as a member of a crew.

3. Display an understanding of resource management in the context of aircraft operations.

4. Plan and conduct flight operations in order to achieve stated objectives in accordance with national and international aviation standards.

5. Apply knowledge of the physical environment within the aviation context.
- Range: physical environment includes but is not limited to meteorology, physical science principles, aircraft structures and performance.

Critical Cross-Field Outcomes

This qualification promotes, in particular, the following critical cross-field outcomes, as listed in the constituent unit standards:

Identifying and solving problems in which responses display that responsible decisions using critical and creative thinking have been made when:
- Planning and performing flights to achieve objectives within the constraints of the aeroplane limitations and regulatory requirements.

Working effectively with others as a member of a team, group, organisation, and community during:

- Acting as a sole pilot or a member of a flight crew.
- Communicating with Air Traffic Service (ATS) and organising the flight in cognisance to other air traffic.

Organising and managing oneself and one's activities responsibly and effectively when:

- Plan ahead.
- Compliance with applicable legislation.
- Performing appropriate checks and procedures.
- Using checklists where appropriate.
- Exercising command ability and manoeuvring the aeroplane within its limits in order to achieve the desired outcomes.

Collecting, analysing, organising and critically evaluating information to better understand and explain:

- Identifying symptoms of instrument, system and engine malfunctions.

Communicating effectively using visual, mathematical and/or language skills in the modes of oral and/or written persuasion when:

- Radio and cockpit communication is in accordance with standard procedures and phraseology to ensure clarity and brevity of communication is achieved.

Using science and technology effectively and critically, showing responsibility towards the environment and health of others when:

- Proper and effective visual scanning to clear the area before and while performing advanced manoeuvres.
- Operation of the aeroplane and its systems in accordance with the AFM/POH.
- Taking prompt corrective action when tolerances are exceeded.
- Flying the aeroplane in such a way that tolerance exceedences are kept to a minimum.

Demonstrating an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation when:

- A high level of situational awareness is maintained.
- Airspace restrictions and requirements are adhered to.
- Curfews, noise abatement procedures and other measures to minimise disturbance to the environment and the public are observed.
- Safe flying practice is maintained.

Being culturally and aesthetically sensitive across a range of social contexts.

ASSOCIATED ASSESSMENT CRITERIA

1.

- The role of airmanship is explained in relation to risk analysis, situational awareness and prioritisation of tasks.
- Safety principles are applied within an aviation context.
- Flight operations are conducted in accordance with the current national and international legislation and regulations.
- Normal, non-normal and emergency situations are managed in accordance with flight manuals and organisational policies and procedures.
  - Range: policies and procedures include but are not limited to the threat and error management principles.

o The functioning of the aviation system is promoted through communication and awareness of the interests of role-players and stakeholders.

2.
o The aircraft is controlled in accordance with flight manuals and operator's policies and procedures.
o Flight procedures are performed in accordance with flight manuals and operator's policies and procedures.
o The aircraft is navigated to maintain geographical position awareness and safe operations.
o Unplanned situations are recognised in order to inform and execute recovery actions.
o Range: inform includes but is not limited to communicate, analysis, recognition.

3.
o Pre-and post flight operations and administration for flights are conducted in accordance with flight manuals, regulations and operators procedures.
o Range: regulations refer to either Civil Aviation Authority **(CAA)** or Military Aviation Authority (MAA).
o Flight environment is managed in order to achieve operational objectives.
o Range: flight environment includes but is not limited to both the on-board and external influences and resources.
o Human factors are evaluated in order to maximise performance.
o Range: human factors include but are not limited to interpersonal communications, interactions, team functions and stress management.
o Aviation and flight related problems are identified and solved in a systematic manner.
o Priorities are determined taking into account influencing factors on aviation and flight.
o Range: influencing factors include but are not limited to available resources, time constraints, group, task and individual needs.

4.
o Objectives of the flight are determined in order to focus the planning effort.
o Available resources are determined for utilisation to achieve objectives.
o Constraints are identified and taken into consideration when planning and conducting flight operations.
o Range: constraints include but are not limited to environmental, physical and regulatory.
o A plan for the flight is drafted taking into account objectives, resources and constraints.
o A flight is conducted in accordance with the plan whilst continuously monitoring progress and taking corrective action where appropriate.

5.
o The application of meteorology is explained in terms of its influence on aviation.
o Aircraft construction is explained in terms of its influence on aircraft capabilities and limitations.
o Range: construction includes but is not limited to aircraft structures, components, systems.
o Aircraft performance is analysed to achieve operational objectives.
o Range: analyses include but are not limited to aircraft capabilities, safety issues, performance and aircraft loading.
• The application and operation of radio navigation and communications aids is explained and utilised in aviation.
o The application of navigation principles is explained in the context of aviation.
o Range: navigation principles include but are not limited to the form of the earth, maps, magnetism, time and distance calculations.
o Physical principles are explained in terms of their influence on flights and aviation.
o Range: physical principles must include but are not limited to the principles of flight, relevant theory from physical science.

Integrated Assessment

• Assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, so that an integrated approach to assessment is incorporated into the qualification.
• Learning, teaching and assessment are inextricably interwoven. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated.
• Assessment of communication and mathematical literacy should be integrated as far as possible with other aspects and should use practical contexts wherever possible. A variety of methods must be used in assessment and tools and activities must be appropriate to the context in which the learner is working or will work. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.
• The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments, the assessor should make use of a range of formative and summative assessment tools methods and assess combinations of practical, applied, foundational and reflexive competencies.
o During the assessment of the practical components of this qualification the assessor must ensure that all underlying theoretical components are assessed in an integrated'manner.
• Assessors must assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.
• Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated in an integrated manner.

INTERNATIONAL COMPARABILITY

Piloting competencies and international qualifications are regulated by legislation and regulations. In order to fly an aircraft one must do so within the parameters of international regulations set by organisations such as the International Civil Aviation Authority (ICAO). A pilot will not be able to legitimately fly an aircraft if these international prescripts are not adhered to. Therefore these international standards were used for benchmarking this qualification. A comprehensive comparison has been done with the ICAO Regulations and by implication this qualification has therefore been benchmarked with 186 countries that are all signatories to ICAO.

Certain countries also have national aviation authorities such as the JAA (Joint Aviation Authority), which operates and regulates aviation within Europe. The equivalent body in South Africa is the Civil Aviation Authority (CAA) who is regularly audited by ICAO to ensure that licensing of South African pilots are aligned with international prescripts and regulations. The CAA was instrumental in the generation of this qualification and an alignment with licensing requirements has also been completed based on the competencies outlined in the qualifications. This qualification outlines the competencies needed by pilots to align with private pilot's licenses and commercial pilots licences.

Currently ICAO headquarters is housed in Down Town Montreal, Canada and more than 186 Countries are signatories to the Chicago Convention or ICAO. This means that South African pilot training is in line with 186 countries as they all subscribe to the ICAO regulations.

International comparability was conducted with the following countries to provide clear evidence that this qualification meets international standards:

o United States of America: Federal Aviation Authority in America.
• Europe: Joint Aviation Authority in Europe.
• The standards set by the International Civil Aviation Organisation (ICAO) of which South Africa is a signatory.

Collectively these bodies determine international standards for aviation and therefore South Africa has to comply with at least these standards and recommended practises. To this end the qualifications and unit standards include at least the requirements of the stated authorities and bodies. This qualification was benchmarked against the ICAO and FAA body of knowledge,

ICAO training manuals, selected ICAO programmes, FAA Practical Test Standards, FAA Advisory Circulars, Civil Aviation Medical Institute research findings and FAA Inspector's manuals.

Federal Aviation Authority (FAA)

Mike Monroney Aeronautical Centre
o The MMAC is considered a crucial element of aviation safety and have four primary functions, i.e. Training, Logistics, Research and Service. It is the home of the following institutions; The FAA Academy; Transportations Safety Institute; Civil Aero Medical Institute and the United States Coast Guard Institute.

The FAA Academy
o The FAA Academy offers over 1,500 aviation related courses. The scope of courses varies from operation aviation personnel to airport design and includes Air Traffic Management. Customers include the Federal Aviation Administrations staff and national and international companies. The FAA Academy has been accredited by the North Central Association of Colleges and Schools (NCA). The FAA has international co-operative agreements with: International Civil Aviation Organisation (ICAO), ATNS College, South Africa and TRAINAIR program, hence the alignment with these qualifications.

Civil Aero Medical Institute (CAMI)
o CAMI is funded by the Office of Aviation Medicine and has 97 researcher posts. CAMI conducts research in four major areas, i.e. Forensic Toxicology and Aircraft Accident Research; Human Factors; Protection and Survival and Training Organisational Research. These competencies are covered in this qualification by unit standards which deals with the limitations of human performance within the aviation environment and survival techniques.

Flight Standards

The Federal Aviation Regulations (FARs) specify the areas in which knowledge and skill must be demonstrated by an applicant before the issuance of a pilot certificate or rating. The FARs provide the flexibility to permit the FAA to publish practical test standards containing specific TASKS (procedures and manoeuvres) in which competency must be demonstrated. Adherence to provisions of the regulations and the practical test standards is mandatory for the evaluation of pilot applicants. The Regulatory Support Division publishes various Practical Test Standards.

The FAA "Practical Test Standards" are well developed, well documented and include; outcomes, assessment criteria and a range statement. Practical test standards form the basis for certification of airmen in the USA and comply with ICAO regulations. In this qualification the following practical test standards was incorporated into identified unit standards:

The following are some of the practical test standards used:
● Airline Transport Pilot-Airplane; Airline Transport Pilot - Helicopter; Commercial Pilot-Airplane; Commercial Pilot - Helicopter; Flight Instructor-Airplane; Flight Instructor- Helicopter; Flight Instructor - Instrument Airplane and Helicopter; Amendments; Instrument Rating - Airplane and Helicopter; Recreational Pilot; Private Pilot > Airplane and Private Pilot - Helicopter. Most of these competencies were incorporated into the actual flying related unit standards of this qualification which are mostly found in the core component.

The following Knowledge Test Guides were used:
o Commercial Pilot Knowledge Test Guide; Recreational Pilot and Private Pilot Knowledge Test Guide; Flight and Ground Instructor Knowledge Test Guide and Instrument Rating Knowledge Test Guide. Most of these competencies were incorporated into the "ground school related" unit standards of this qualification which are mostly found in the fundamental component.

Advisory Circulars (AC's)

Whereas advisory circulars (AC's) are issued to provide guidance and information in a designated subject area or to show a method acceptable to the Administrator for complying with a Federal Aviation Regulation, where they are in alignment with South African legislation, they were considered for incorporation into identified Unit Standards within this qualification. Specific assessment criteria were written which were based on the following AC's:

- Aeronautical Decision Making.
- Approval and Use of TCAS.
- Aircraft Wake Turbulence.
- Aircraft Weight and Balance Control.
- Atmospheric Turbulence Avoidance.
- Aviation Safety Action Programs.
- Aviation Weather Services.
- Co-ordination Between Flight Crewmembers and Flight Attendants.
- Crew Resource Management Training.
- Criteria for Category III Weather Minima for Takeoff, Landing, and Rollout.
- Criteria for Category I and II Landing Minimal for FAR 121 Operator.
- Currency and Additional Qualification Requirements for Certificated Pilots.
- English Language Skill Standards Required.
- Extended Range Operation With Two-Engine Airplanes.
- Ground De-icing and Anti-icing Training and Checking.
- Guidelines for Using Global Positioning System Equipment for IFR En Route and Terminal Operations.
- Gyroscopic Instruments - Good Operating Practices.
- Line Operational Simulations.
- Noise Abatement Departure Profile.
- Operations of Aircraft at Altitudes Above 25,000 feet MSL.
- Passenger Safety Information Briefing and Briefing Cards.
- Pilot's Spatial Disorientation.

Research findings underpin much of the FAA Regulatory process and serve as valuable repository of valid information. The following research findings were considered for incorporation, where relevant, and where it aligns with South African Legislation, in the respective qualifications and unit standards:

- A Human Error Analysis of Commercial Aviation Accidents Using The Human Factors Analysis and Classification System.
- Documentation of Validity for the AT-SAT Computerized Test Battery.
- Controlled Flight Into Terrain: A Study of Pilot Perspectives in Alaska.
- Analysis of Ditching and Water Survival Training Programs of Major Airframe Manufacturers and Airlines.
- Summative Evaluation of the Collegiate Training Initiative for Air Traffic Control Specialists Programme.
- The Use of Weather Information in Aeronautical Decision-Making.

International Civil Aviation Organisation (ICAO)

The Chicago Convention

- ICAO became a specialized agency of the United Nations linked to Economic and Social Council (ECOSOC). The Air Navigation Bureau at ICAO headquarters provides technical expertise to the Assembly, Council and Air Navigation Commission in the following disciplines and respective sections: Aerodromes, air routes and ground aids; Accident investigation and prevention; Aeronautical information services and charts; Air traffic management; Communications, navigation and surveillance; Aviation medicine; Meteorology; Personnel licensing and training and Safety oversight. The Bureau develops technical studies for the Air Navigation Commission as well as recommendations for Standards and Recommended

Practises (SARP's) relating to safety, regulatory and efficiency of international air navigation for the Council.

Technical Publications relevant to this qualification and considered are:

o Annex 13 - Aircraft Accident and Incident Investigation, Ninth Edition - July 2001; Accident Prevention Manual (Doc 9422), First Edition- 1984; Human Factors Training Manual (Doc 9683), First Edition- 1998; Manual of Aircraft Accident and Incident Investigation, Part I - Organization and Planning (Doc 9756), First Edition- 2000 and Guidance on Assistance to Aircraft Accident Victims and their Families (Circ 285).
o Annex 2 - Rules of the Air; Annex 11 - Air Traffic Services; Air Traffic Services Planning Manual (Doc 9426); Manual of Radiotelephony (Doc 9432); Manual concerning Interception of Civil Aircraft (Doc 9433); Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations (Doc 9554); Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL290 and FL 410 Inclusive (Doc 9574); Manual on Required Navigation Performance (RNP) (Doc 9613); Manual on Airspace Planning Methodology for the Determination of Separation Minima (Doc 9689); Manual of Air Traffic Services Data Link Applications (Doc 9694); Operations/Airworthiness.
o Annex 5 - Units of Measurement to be Used in Air and Ground Operations.
o Annex 6 - Operation of Aircraft Part I - International Commercial Air Transport- Aeroplanes Part II - International General Aviation- Aeroplanes Part III - International Operations - Helicopters.
● Annex 8 - Airworthiness of Aircraft.
o Annex 16 - Environmental Protection Volume I - Aircraft Noise Volume II - Aircraft Engine Emissions.
o Annex 18 - The Safe Transport of Dangerous Goods by Air; Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS, Doc 8168); Manual of Procedures for Operations, Inspection, Certification and Continued Surveillance (Doc 8335); Manual on the Use of the Collision Risk Model (CR* for ILS Operations (Doc 9274); Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284); Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284SU); Manual of All-Weather Operations (Doc 9365); Instrument Flight Procedures Construction Manual (Doc 9368); Dangerous Goods Training Programme (Doc 9375) and Books I, 2, 3 and 4; Preparation of an Operations Manual (Doc 9376); Manual of Model Regulations for National Control of Flight Operations and Continuing Airworthiness of Aircraft (Doc 93 88); Manual on Aerial Work (Doc 9408); Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (Doc 9481); Environmental Technical Manual on the use of Procedures in the Noise Certification of Aircraft (Doc 9501); Guidance on the Preparation of a Pilot's Operating Handbook; Manual of Aircraft Ground De/Anti-icing Operations (Doc 9640); Guidance Material on SST Aircraft Operations (Circular 126) and Recommended Method for Computing Noise Contours around Airports. (Circular 205)

Personnel licensing and training section

Personnel Licensing and Training section is responsible for:
o Developing and maintaining provisions relating to licensing in Annex 1 and related documents; Personnel licensing part of ICAO Safety Oversight Programme, including education/training activities; Developing provisions in relevant ICAO Annexes and guidance material in other relevant ICAO documents; ICAO endorsed Government Safety Inspector Training Programme; Coordinating and developing the TRAINAIR network - developing Standardized Training Packages (STP) and Developing guidance material to operate the TRAINAIR Programme.
o Technical Publications relevant to this qualification and considered are:
◦ Training Manual (Doc 7192); Part B-5 - Integrated Commercial Pilot Course Volume 1 - Course Details Volume 2.

Standards and recommended practises

ICAO International Standards and Recommended Practices are adopted by the Council in accordance with Articles 54, 37 and 90 of the Convention on International Civil Aviafion and are

designated, for convenience, as Annexes to the Convention. The uniform application by Contracting States of the specifications contained in the International Standards is recognized as necessary for the safety or regularity *of* international air navigation while the uniform application of the specifications in the Recommended Practices is regarded as desirable in the interest of safety, regularity or efficiency of international air navigation.

Technical manuals

o Technical Manuals provide guidance and information in amplification of the International Standards, Recommended Practices and PANS, the implementation of which they are designed to facilitate.

ICAO standards

The ICAO Standards was adopted as the minimum base line and the ICAO recommendations as guidance to further develop the relevant unit standards. In this regard unit standards, where relevant, reflect the ICAO standards as purpose and range statement.

The following sections of ICAO documentation were considered:

o General Rules Concerning Pilot Licences and Ratings- Annex 1; Rules of The Air - Introduction - Annex **2;** Rules of The Air - General - Annex **2;** Distress and Urgency Signals - Annex **2** ;Interception *of* Civil Aircraft- Annex **2;** Meteorological Service - Definitions and Introduction - Annex 3; Aircraft Observations and Reports - Annex 3; Operation of Aircraft- Definitions and Introduction - Annex 6; Operation of Aircraft - Flight Operations - Annex 6; Operation of Aircraft- Operating Limits - Annex **6;** Operation of Aircraft- Flight Crew - Annex ***6;*** Operation of Aircraft - Cabin Crew- Annex 6; Operation of Aircraft- Operations Manual- Annex 6; Operation of Aircraft - Extended Range Operations- Annex 6; Operation of Aircraft - Flight Preparations- Annex 6 Part II; Operation of Aircraft- Carriage of Oxygen - Annex 6; Operations Manual- Annex 6 Part III; Communication Procedures - Definitions And Introduction - Annex 10 Vol II; Communication Procedures- Aeronautical Fixed Service - Annex 10 Vol II; Communication Procedures- Mobile Service -Annex 10 Vol II; Communication Procedures- Data Link - Annex 10 Vol II.

o Use of ICAO standards

- A minimum required unit standard matrix for the respective qualifications.
- A human factors, minimum unit standard matrix for the respective qualifications.
- Identify relevant outcomes for the respective unit standards.
- Range statements.
- Reference to embedded knowledge.

o The respective Training Manuals used are:
- Training Manual - Integrated Commercial Pilot Course; Training Manual - Human Factors.

ICAO Manuals that normally supplement the respective sections within ANNEXES and that serve as guidance material to comply with ICAO standards and recommendations were considered to:

- Identify unit standards, not clear from the Annexes, and guide their respective placement in a unit standard matrix; Develop range statements and assessment criteria for the associated unit standards; Where **so** shown, use tasks or job descriptions to assist in identifying outcomes associated with the relevant unit standards; Range statements for the respective qualifications and/or unit standards; Reference to embedded knowledge.

The respective manuals are:

- Manual of Aircraft Accident and Incident Investigation; Accident Prevention Manual; Manual on Required Navigation Performance; Safety Oversight Manual; Accident Prevention Manual; Manual of Aircraft Ground De-Icing/Anti-Icing Operations; Manual of Model Regulations for Control of Flight Operations; Manual of All-Weather Operations; Manual of Runway Visual

Range Observing and Reporting Practises; Airport Services Manual - Control of Obstacles; Airport Services Manual - Airport Operational Services; Airport Services Manual - Airport Maintenance Practices; Airport Services Manual- Pavement Service Condition.

Europe
o Significant world best practises were observed and forms part of the respective standards. Significant principles also emerged, such as recognising and building on existing experience and standards rather than re-inventing them.

Joint Aviation Training Authority (JAA)
o The Joint Aviation Authorities (JAA) is an associated body of the European Civil Aviation Conference (ECAC) representing the civil aviation regulatory authorities of a number of European States who have agreed to co-operate in developing and implementing common safety regulatory standards and procedures.

The JAA's work started in 1970 (when it was known as the Joint Airworthiness Authorities). Originally its objectives were only to produce common certification codes for large aeroplanes and for engines. This was in order to meet the needs of European industry and particularly for products manufactured by international consortia (e.g. Airbus). Since 1987 its work has been extended to operations, maintenance, licensing and certification/design standards for all classes of aircraft. The JAA publishes detailed syllabi and standards for Pilots and airline crew. These standards were incorporated in this qualification.

Summary

o European countries comply with the JAA and the majority of them are signatories to ICAO.
o American countries comply with FAA requirements and the majority of them are signatories to ICAO.
o Operators operating into Europe complies with **JAA.**
o Operators operating into the United States of America complies with JAA.
o South Africa is a signatory to ICAO and as such has adopted their standard as base-line.

ARTICULATION OPTIONS
This Qualification articulates horizontally with the following registered qualification(s):
• National Certificate: Navigation Level 5, ID: 49950.

This Qualification articulates vertically with the following registered learning programmes:

o National Diploma: Aircraft Piloting Level 6, ID: 58008.
• Bachelor of Science: Aviation Management

MODERATION OPTIONS
• Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, and Quality Assurance (ETQA) Body or with an ETQA that has **a** Memorandum of Understanding 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA. Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
• 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 in the exit level outcomes described in the qualification.

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

- Well-developed interpersonal skills, subject matter and assessment experience.
- Well-developed subject matter expertise within aviation.
- Competent in the exit level outcomes of the National Diploma: Aircraft Piloting Level 5.
- To be a registered assessor with the relevant Education and Training Quality Assurance Body.
- Detailed documentary proof of educational qualification, practical training undergone, and experience gained by the applicant must be provided (Portfolio of evidence). Assessment competencies and subject matter experience of the assessor can be established by recognition of prior learning.

NOTES

The International Civil Aviation Organisation (ICAO) requires that all applicants for a pilots licences, all current pilot licence holders, Air Traffic Controllers and Station Operators Licences shall demonstrate, in a manner acceptable to the licensing authority, the ability to speak and understand the English language used for radiotelephony communications in compliance with the holistic descriptions contained in the ICAO Operational level (level **4)** of the ICAO Language Proficiency Rating Scale Document.

ICAO operational Level **4** English

- Pronunciation (Assumes a dialect and/or accent intelligible to the aeronautical community): Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.
- Structure (Relevant grammatical structures and sentence patterns): Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.
- Vocabulary: Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete and work related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.
- Fluency: Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.
- Comprehension: Comprehension is accurate on common, concrete and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.
- Interaction: Responses are usually immediate, appropriate and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming or clarifying.

Airmanship: Airmanship is the application of the principles of skill, proficiency and discipline. It includes but is not limited to: knowledge of equipment, knowledge of self, knowledge of the environment, risks associated with flight operations, appropriate situational awareness and judgment.

Situational Awareness: The perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future.

Safe practice in flight operations: Safety practice in flight operations means a systematic and proactive process that minimises risks to aviation and the public whilst integrating flight operations, technical systems and resource management.

A small aeroplane refers to an aeroplane with a maximum certificated take-off mass not exceeding 5700 kg.

In the fundamental unit standards of this qualification the term aeroplane includes reference to the term aircraft and vice versa where applicable.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	120161	Conduct pre and post flight procedures and administration for flights	Level 5	4
Core	120146	Navigate an aircraft in Visual Meteorological Conditions	Level 5	6
Core	243329	Perform night flying operations	Level 5	3
Core	243338	Operate an aircraft in the airport environment	Level 5	4
Core	243331	Control aircraft by visual reference in normal flight	Level 5	7
Core	243337	Manage non-normal and emergency flight situations	Level 5	10
Core	120157	Demonstrate understanding of aeroplane loading	Level 5	2
Core	243325	Apply safety principles for flight operations	Level 5	5
Core	243335	Manage flight environment	Level 5	20
Core	120162	Navigate an aircraft with reference to radio aids	Level 6	10
Core	243327	Perform flying manoeuvres by sole reference to instruments	Level 5	15
Elective	243326	Perform aeroplane take-offs, landings and go-arounds	Level 5	8
Elective	120147	Perform pre-flight planning for small aeroplane	Level 5	6
Elective	243330	Perform Planning for an Instrument Flight Rules flight	Level 5	2
Elective	120159	Perform instrument flight procedures	Level 6	13
Elective	120300	Analyse leadership and related theories in a work context	Level 5	8
Elective	117985	Demonstrate an understanding of the Law of Armed Conflict during multi-national operations	Level 5	10
Elective	243328	Perform low level flying operations	Level 5	9
Elective	243332	Conduct close formation flying	Level 5	12
Elective	11286	Institute disciplinary action	Level 5	8
Elective	15230	Monitor team members and measure effectiveness of performance	Level 5	4
Elective	117988	Apply the Strategic Process during Planning	Level 5	3
Elective	120476	Adhere to professional conduct and organisational ethics	Level 5	4
Elective	119032	Identify and deal with dangerous goods	Level 5	13
Elective	120044	Demonstrate knowledge of Airpower	Level 5	5
Elective	120039	Determine the integrated influence of the operational environment on a flight operation in accordance with South African Air Force doctrine	Level 5	5
Elective	243289	Perform routine test flying in an aircraft	Level 6	16
Elective	243336	Pilot a multi-engine aeroplane	Level 5	4
Elective	243324	Perform aerobatic manoeuvres	Level 5	9
Elective	243279	Perform multi-crew operations	Level 6	11
Elective	120305	Analyse the role that emotional intelligence plays in leadership	Level 5	8
Elective	120155	Apply survival techniques for aircrew members	Level 4	12
Elective	120048	Provide a Flight Authorisation Service	Level 5	4
Elective	243339	Perform advanced manoeuvres and procedures in an aeroplane	Level5	3
Elective	243334	Perform slow flight, stalls and spin recoveries in an aeroplane	Level5	4
Fundamental	120059	Demonstrate an understanding of the principles of operation and use of radio aids in air navigation	Level 5	8
Fundamental	120150	Demonstrate the use of short-range communications specific to aircraft	Level 5	3
Fundamental	120156	Demonstrate understanding of South African Aviation law, International Civil Aviation Organization rules and procedures for small commercial aeroplane operations	Level 5	10
Fundamental	120058	Demonstrate understanding of the principles of navigating an aircraft	Level 5	7
Fundamental	120041	Demonstrate understanding of the principles of flight	Level5	6
Fundamental	120047	Demonstrate understanding of human performance and limitations in aviation	Level 5	5
Fundamental	120045	Demonstrate understanding of aircraft instrumentation	Level 5	6
Fundamental	120042	Interpret meteorology for aviation	Level 5	7
Fundamental	120152	Describe small aeroplane components and emergency equipment	Level 5	9
Fundamental	243333	Demonstrate understanding of cockpit resource management	Level 5	10

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform aerobatic manoeuvres

SAQA US ID	*UNIT STANDARD TITLE*		
243324	Perform aerobatic manoeuvres		
SGB		*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 *5*	9
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P **Comment**			

SPECIFIC OUTCOME 1
Demonstrating an understanding of the influence of aerobatic manoeuvres on the human body.

SPECIFIC OUTCOME 2
Plan a flight taking into account the aerobatic manoeuvres portion of the flight.

SPECIFIC OUTCOME 3
Fly aerobatic manoeuvres during an actual flight.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Apply safety principles for flight operations

SAQA US ID	*UNIT STANDARD TITLE*		
243325	Apply safety principles for flight operations		
SGB		*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 5	5
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Manage hazardous conditions.

SPECIFIC OUTCOME 2
Determine the impact of unsafe practices on flight operations.

SPECIFIC OUTCOME 3
Review the safety of flight operations.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform aeroplane take-offs, landings and go-arounds

SAQA US ID	*UNIT STANDARD TITLE*		
243326	Perform aeroplane take-offs, landings and go-arounds		
SGB		*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 5	a
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Perform take-offs during real and or simulated flight operations.

SPECIFIC OUTCOME 2
Perform landings during real and or simulated flight operations.

SPECIFIC OUTCOME 3
Perform go-arounds during real and or simulated flight operations.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform flying manoeuvres by sole reference to instruments

SGB		*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 5	15
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Perform normal manoeuvres within specified tolerances.

SPECIFIC OUTCOME 2
Recover from unusual flight attitudes.

SPECIFIC OUTCOME 3
Manage the failure of flight instruments.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform low level flying operations

SAQA US ID	*UNIT STANDARD TITLE*		
243328	Perform low level flying operations		
SGB		*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 5	9
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*

SPECIFIC OUTCOME 1
Plan a low level flight.

SPECIFIC OUTCOME 2
Navigate a low level flight.

SPECIFIC OUTCOME 3
Perform low level flying.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform night flying operations

SGB		***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 *5*	3
REGISTRATION STATUS	***REGISTRATION START DATE***	***REGISTRATION END DATE***	***SAQA DECISION NUMBER***
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Interpret the factors that distinguish night flight from day flight.

SPECIFIC OUTCOME 2
Fly an aircraft within the airport environment at night.

SPECIFIC OUTCOME 3
Navigate aircraft at night.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

SAQA US ID	*UNIT STANDARD TITLE*		
243330	Perform Planning for an Instrument Flight Rules flight		
SGB		*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 5	2
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Use information to plan a flight that will be conducted under Instrument Flight Rules (IFR).

SPECIFIC OUTCOME 2
Produce plans for the flight.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Control aircraft by visual reference in normal flight

SAQA US ID	*UNIT STANDARD TITLE*		
243331	Control aircraft by visual reference in normal flight		
SGB		*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 5	7
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P			

SPECIFIC OUTCOME 1
Fly and manage the aircraft during climbing manoeuvres by visual reference.

SPECIFIC OUTCOME 2
Fly and manage the aircraft during straight and level phase of flight by visual reference within general flight tolerances.

SPECIFIC OUTCOME 3
Fly and manage the aircraft during descending manoeuvres by visual reference within general flight tolerances.

SPECIFIC OUTCOME 4
Fly and manage the aircraft during turning manoeuvres by visual reference within general flight tolerances.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Conduct close formation flying

SAQA US ID	*UNIT STANDARD TITLE*		
243332	Conduct close formation flying		
SGB		*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 5	12
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Apply principles of close formation flying.

SPECIFIC OUTCOME 2
Conduct a close formation flight briefing.

SPECIFIC OUTCOME 3
Perform **close formation flying.**

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate understanding of cockpit resource management

SAQA US ID	*UNIT STANDARD TITLE*		
243333	Demonstrate understanding of cockpit resource management		
SGB		*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 *5*	10
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Explain concepts associated with cockpit resource management (CRM).

SPECIFIC OUTCOME 2
Apply cockpit resource management (CRM) concepts in the aviation context.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform slow flight, stalls and spin recoveries in an aeroplane

SAQA US ID	***UNIT STANDARD TITLE***		
243334	Perform slow flight, stalls and spin recoveries in an aeroplane		
SGB		***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 ***5***	**4**
REGISTRATION STATUS	***REGISTRATION START DATE***	***REGISTRATION END DATE***	***SAQA DECISION NUMBER***
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Manoeuvre aeroplane in slow flight during real and or simulated flight operations.

SPECIFIC OUTCOME 2
Perform approaches to stalls and stall recovery and avoidance techniques during real and or simulated flight operations.

SPECIFIC OUTCOME 3
Recover from incipient spins.

SPECIFIC OUTCOME 4
Describe the phenomenon of and recovery from full spin.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Manage flight environment

SAQA US ID	UNIT STANDARD TITLE		
243335	Manage flight environment		
SGB		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 5	20
REGISTRATION STATUS	REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Manage aircraft environment.

SPECIFIC OUTCOME 2
Manage aircraft and aircraft systems.

SPECIFIC OUTCOME 3
Manage the flight operation.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Pilot a multi-engine aeroplane

SAQA US ID	*UNIT STANDARD TITLE*		
243336	Pilot a multi-engine aeroplane		
SGB		*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 5	4
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
identify the effects of failure of an engine on the control and performance of a multi-engine aeroplane.

SPECIFIC OUTCOME 2
Taxi a multi-engine aeroplane.

SPECIFIC OUTCOME 3
Plan for flight in a multi-engine aeroplane.

SPECIFIC OUTCOME 4
Perform take-off in multi-engine aeroplane.

SPECIFIC OUTCOME 5
Fly a multi-engine aeroplane.

SPECIFIC OUTCOME 6
Manage engine failure during flight.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

SAQA US ID	***UNIT STANDARD TITLE***		
243337	Manage non-normal and emergency flight situations		
SGB		***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 5	10
REGISTRATION STATUS	***REGISTRATION START DATE***	***REGISTRATION END DATE***	***SAQA DECISION NUMBER***
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Manage equipment and system malfunctions during actual and or simulated flight operations.

SPECIFIC OUTCOME 2
Simulate the use of emergency equipment during actual and or simulated flight operations.

SPECIFIC OUTCOME 3
Manage simulated emergency situations during actual and or simulated flight operations.

SPECIFIC OUTCOME 4
Manage simulated non-normal situations during actual and or simulated flight operations.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

SAQA US ID	*UNIT STANDARD TITLE*		
243338	Operate an aircraft in the airport environment		
SGB		*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 *5*	4
REGISTRATION STATUS	*REGISTRATION START DATE*	*REGISTRATION END DATE*	*SAQA DECISION NUMBER*
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Conduct aircraft start up procedure.

SPECIFIC OUTCOME 2
Taxi the aircraft.

SPECIFIC OUTCOME 3
Fly the aircraft in accordance with the prescribed traffic pattern requirements.

SPECIFIC OUTCOME 4
Fly visual arrival and departure procedures.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform advanced manoeuvres and procedures in an aeroplane

SAQA US ID	UNIT STANDARD TITLE		
243339	Perform advanced manoeuvres and procedures in an aeroplane		
SGB		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 5	3
REGISTRATION STATUS	REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Draft - Prep for P Comment			

SPECIFIC OUTCOME 1
Turn aeroplane steeply during real and or simulated flight operations.

SPECIFIC OUTCOME 2
Side slip an aeroplane during real and or simulated flight operations.

SPECIFIC OUTCOME 3
Recover from spiral dive during real and or simulated flight operations.