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GOVERNMENT NOTICES

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

No. 281

28 March 2001

In order to proceed with the recognition of Standards Generating Bodies in terms of Government Regulations 19(1)(c) and 22(2) of 28 March 1998, National Standards Body 06 (Manufacturing, Engineering and Technology) invites public comment with respect to *the acceptability of the nominees and the representativeness of the key education and training stakeholder interest groups* listed as an SGB applicant below.

In addition, the NSB invite submissions from interested parties wishing to serve on such an SGB. Interested parties should take note of the section on SGB Information below.

All nominations/ applications should be accompanied by curricula vitae.

More information regarding this application may be obtained on the SAQA website or from the SAQA offices.

Comment should reach the NSB at the address below **by not later than Monday 17 April 2001**. All correspondence should be marked **SGB Formation – NSB 06** and be addressed to:

<p>The Director: Standard Setting and Development SAQA Attention: Ms S Vasuthevan Postnet Suite 248 Private Bag X06 Waterkloof 0145 or faxed to 012 – 346 5812 or e-mailed to sharon@saqa.co.za</p>

SGB INFORMATION

As a necessary step in the development and implementation of the National Qualifications Framework, The National Standards Bodies are briefed [regulation 19(1)(c) of 28 March 1998] to recognise or establish Standards Generating Bodies (SGBs).

SGBs shall:

- generate standards and qualifications in accordance with the Authority requirements in identified sub-fields and levels;
- update and review standards;
- recommend standards and qualifications to National Standards Bodies;
- recommend criteria for the registration of assessors and moderators or moderating bodies; and
- perform such other functions as may from time-to-time be delegated by its National Standards Body.

Any bodies wishing to nominate representatives, make application to serve on, or make any other submission with regard to the above SGB should note the following information.

SGBs should be composed of organisations, which shall be key education and training stakeholder interest groups and experts in the sub-field. The NSB, when making its final decisions will have due regard for, among other things, *'the need for representativeness and equity, redress and relevant expertise in terms of the work of the SGBs.'*

Organisations proposing to nominate persons to SGBs should be sensitive to the need for **equity** and **redress**, and shall nominate persons who-

- (a) will be able to consider issues of productivity, fairness, public interest and international comparability as related to education and training in the sub-field;
 - (b) enjoy credibility in the sub-field in question, who enjoy respect; have the necessary expertise and experience in the sub-field and have the support or backing of the nominating body;
 - (c) are able to advocate and mediate the needs and interests of all levels within the sub-field covered by the Standards Generating Body;
 - (d) are able to exercise critical judgement at a high level; and
 - (e) are committed to a communication process between the Standards Generating Body, the National Standards Body and the Constituency.
-

No. 282

28 March 2001

NOTICE BY NSB 06, MANUFACTURING, ENGINEERING AND TECHNOLOGY, OF AN APPLICATION TO REGISTER AN SGB FOR ENGINEERING

NSB 06 has received an application to recognise and register an SGB for Engineering

PROPOSED BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards across the three subfields of organising field 06, from Level 4 through to Level 8 in Engineering [Regulation 24 (1)(e)].
2. Generate the following qualifications and standards in accordance with Authority requirements, at NQF levels 4 to 8:

These would cover whole and unit standards based qualifications for Engineering Technicians, Engineering Technologists and Engineers in the areas of aeronautical, agricultural, chemical, civil, electrical, industrial, mechanical, metallurgical/materials, and mining engineering as well as for the continuous development of learners in these fields. [Regulation 24(1)(a)].

- ♦ National Certificate in Engineering (levels 4 – 7)
 - ♦ National Diploma in Engineering (levels 6 – 8)
 - ♦ First National Degree in Engineering (level 6)
 - ♦ National Degree in Engineering (level 7)
 - ♦ Masters Degree in Engineering (level 8)
3. Recommend the qualifications and standards generated under 2 above to the National Standards Body [Regulation 24(1)(a)].
 4. Recommend criteria for the registration of assessors and moderators or moderating bodies [Regulation 24(1)(d)].
 5. Review these qualifications and unit standards and effect the necessary changes [Regulation 24(1)(b)].
 6. Maintain liaison, during the process of developing standards and qualifications, with other related Standards Generating Bodies as and when direct by NSB 06 [Regulation 24(1)(e)].

PROPOSED COMPOSITION OF THE SGB

Nominee	Workplace	Nominating Body	Experience/ Qualifications
Don Turvey	INGWE	South African Colliery Managers Association (SACMA)	BSc Mining Engineering; MBL; 16 years experience in the mining industry
Du Toit Grobler	South African Pulp and Paper Industry (SAPPI)	The Institution of Certified Mechanical and Electrical Engineers of SA	BSc (Eng)(Elec) 28 years experience in electrical and mechanical engineering
Dirk van Niekerk	Siyazi Consultants	South African Institute of Mining and Metallurgy	M Eng (Mining); 32 years experience in mining engineering including 4 involved with national policy formulation
Robert Reinecke	Consultant	South African Institute for Industrial Engineering	D. (B&A) 43 years experience in engineering consulting including 21 in education and training
Terrence Stidworthy	Consultant	Institute of Professional Engineering Technologists	National Technical Diploma, 42 years experience in electrical engineering
Johan De Koker	Spoornet	Institute of Professional Engineering Technologists	Masters Diploma in Technology, Civil Engineering, 30 years experience in civil engineering
Vivian Nel	Orbicom (Pty) Ltd	The Chamber of Engineering Technology	National Diploma in Engineering; 40 years experience in broadcasting technology
Patrick Moncur	Spoornet	The Chamber of Engineering Technology	National Diploma; 36 years experience in mechanical engineering
Michael Barley	Schindler Lifts	Engineering Technicians (Lifts)	National Training Certificate 3, Certified Training Officer; 33 years experience in lift mechanics including 4 as national training officer

Steven Sidney	Consultant	National Laboratory Association (Metrology)	Higher National Diploma T4; 20 years commercial experience in the technology sector
Nicolaas Beute	Cape Technikon	Committee of Technikon Principals (CTP)	PhD Electrical Eng; 38 years experience in engineering including 31 in education and training; Dean of Engineering
Frederick Otieno	Technikon SA	Committee of Technikon Principals (CTP)	PhD Eng, MBA; 20 years in consultancy HOD of Civil Engineering
Pieter van der Walt	University of Stellenbosch	(South African University Vice Chancellors Association) SAUVCA	PhD (Eng) 30 years experience in tertiary education; Dean, Faculty of Engineering
Beatrys Lacquet	Rand Afrikaans University	South African Institute of Electrical Engineers	D. Ing (Electrical and Electronic) 22 years experience in research and tertiary education; Professor of Electrical and Electronic Engineering
Leon Beech	Athlone Technical College	AFETISA: (Association for Further Education and Training Institutions of South Africa)	B Ed 20 years experience in Further Education Rector
Marie Davison	Consultant	University of Stellenbosch	MSc (Eng) 32 years experience in Electrical Engineering including 5 in the field of policy development and strategic development
Andre Strydom	(Chemical Industry Education and Training Authority) CHIETA	Chemical Industries (CHIETA)	National Technical diploma; 18 years experience in the Metal Industry
Gene King	Eskom	Electricity Commission (ESKOM)	B Ed; 7 years experience in engineering; 18 years in Further Education, company training and HR

Graham Brokenshire	Anglogold	Mining Qualifications Authority (MQA)	BSc Eng (Electrical) 30 years experience in engineering including 9 in training field
Themba Dlamini	(Construction Education and Training Authority) CETA	Construction SETA (CETA)	M. Development Economics; 12 years experience in financial management and economics; CEO CETA
Jacob Malatse	Department of Labour	Department of Labour	M Phil; 13 years experience in electrical engineering including 2 in education and training field; Deputy Director
Louis van Rensburg	Department of Transport	Department of Transport	BSc (Eng) 30 years experience in engineering at middle and senior management level, including mentoring and HR development
Zola Mbanguta	Department of Education	Department of Education	D Phil; 17 years experience in engineering in the fields of further education and government

No. 283

28 March 2001

**PUBLIC NOTICE BY NSB 11, SERVICES, TO REGISTER AN SGB FOR
CONSUMER SCIENCE**

NSB 11 hereby registers an SGB for Consumer Science for a period of three years until March 2003.

BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards in the sub-field Consumer Science Level 1 through to Level 8[*Regulation 24(1)(e)*].
2. Generate the following qualifications and standards in accordance with Authority requirements, at NQF levels 1 to 8⁺:
 - ◆ National Certificate in Consumer Science (level 1)
 - ◆ National Certificates in Consumer Science (levels 2 – 4)
 - ◆ Advanced National Certificate in Consumer Science (level 4 - 5)
 - ◆ National Diploma in Consumer Sciences (level 5)
 - ◆ Post-graduate diploma in Consumer Sciences (level 7)
 - ◆ First degree in Consumer Sciences (level 6)
 - ◆ Honours degree in Consumer Science (level 7)
 - ◆ Masters degree in Consumer Science (level 8)
 - ◆ Doctoral degree in Consumer Science (level 8⁺)[*Regulation 24(1)(a)*].
3. Recommend the qualifications and standards generated under 2 above to the National Standards Body [*Regulation 24(1)(c)*].
4. Recommend criteria for the registration of assessors and moderators or moderating bodies [*Regulation 24(1)(d)*].
5. Review these qualifications and unit standards and effect the necessary changes [*Regulation 24(1)(b)*].
6. Maintain liaison, during the process of developing standards and qualifications, with other related Standards Generating Bodies, such as those for Hygiene and Cleaning Services and Hospitality, as and when directed by NSB 11 [*Regulation 24(1)(e)*].

PROPOSED COMPOSITION OF THE SGB

Nominee	Workplace	Nominating Body	Experience/ Qualifications
J M Kiamba	University of Zululand	University of Zululand	M. Sc in Home Economics Education, Ph. D in Home Economics Education.
A-M Trollip	University of Pretoria	University of Pretoria	M. Sc in Home Economics, Ph. D in Home Economics.
A C Erasmus	University of Pretoria	University of Pretoria	Masters in Home Economics
M J Botha	University of Stellenbosch	University of Stellenbosch	Masters in Home Economics
N Muller	University of Stellenbosch	University of Stellenbosch	B. Sc Honours in Home Eco, M. Sc in Consumer Science.
M D Venter	Potchefstroom University	Potchefstroom University	M. Sc in Home Economics, Ph. D in Home Economics
A Gericke	University of Stellenbosch	University of Stellenbosch	B. Sc in Home Economics, B. Sc Honours in Home Economics.
S Crafford	Cape Technikon	Cape Technikon	Honours in Home Economics, Master's Diploma in Technology.
M D Snyman	SA National Consumer Union	SA National Consumer Union	Chairperson of Home Economics Committee of the Minister of Education & Culture, SA National Consumer Science board member.
L A Greyvenstein	Potchefstroom University	Potchefstroom University	D. Ed in Educational Management
E Lecuoana	Free State Department of Education	Free State Department of Education	M. Sc Agriculture in Food Science
E Boshoff	University of Pretoria	South African Association for Family Ecology and Consumer Sciences	Ph. D in Home Economics, B. Sc Honours in Home Economics
J Cornelissen	University of the Western Cape	University of the Western Cape	M. Ed. in Home Economics
J M Green	University of Natal	University of Natal	Ph. D in Home Economics
L L Maliwichi	University of Venda	University of Venda	Ph. D Nutrition/Adult Education, M. Sc in Nutrition, B. Sc in Agriculture.
M S Kgaphola	Department of Agriculture, Conservation and Environment.	Mpumalanga Provincial Government	MA in Home Economics and Family Ecology
N S Mabuza	Department of Agriculture, Conservation and Environment.	Mpumalanga Provincial Government	Diploma in Agricultural Extension and Home Economics
M van der Merwe	Edu Babe	Edu Babe	Bachelor of Arts

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28 March 2001

**PUBLIC NOTICE BY NSB 06, MANUFACTURING, ENGINEERING AND TECHNOLOGY TO
REGISTER AN SGB FOR POWER PLANT OPERATIONS**

NSB 06 hereby registers an SGB for Power Plant Operations for a period of three years, until 05 March 2004.

BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards in the sub-field Manufacturing and Assembly in organising field 06 from level 1 through to level 6 in Power Plant Operations [Regulation 24(1)(e)].

2. Generate the following qualifications and standards in accordance with Authority requirements, at NQF Levels 1 to 6:

These would cover Plant Operations with regard to Fossil, Gas, Nuclear and Hydro Power Generation as well as Electrical Network Control [Regulation 24(1)(a)].

- Certificate in Power Plant Operation Support (level 1)
 - Certificate in Power Plant Operation (level 3)
 - Certificate in Power Plant/Electrical Network Control (level 4)
 - First National Degree in Power Plant Process Management (level 6)
- [Regulation 24(1)(a)].
3. Recommend the qualifications and standards generated under 1 above to the National Standards Body [Regulation 24(1)(c)].
 4. Recommend criteria for the registration of assessors and moderators or moderating bodies [Regulation 24(1)(d)]
 5. Review these qualifications and unit standards and effect the necessary changes [Regulation 24 (1)(b)].
 6. Maintain liaison during the process of developing standards and qualifications with other related Standards Generating Bodies as and when directed by NSB 06 [Regulation 24(1)(e)].

COMPOSITION OF THE SGB

Nominee	Workplace	Nominating Body	Experience/Qualifications
Caroline Botha	Witbank College (Mpumalange Department of Education)	Witbank College	National N Diploma B.Ed. Head of Electrical Department and Examination and Registration
Kobus Brits	ESKOM	ESKOM	25 years experience in power generation, 13 of which in field of training
Johnny Grundling	Witbank College (Mpumalange Department of Education)	Witbank College	BComm., HED, NTD Head of Engineering Department, Witbank College
Davena Legg	Kelvin Power Station	Greater Johannesburg Metropolitan Council	24 years experience in power generation. Acting Chief Engineer Production
Maureen Mboshane	ESKOM (Tutuka)	Electricity Commission ESKOM	BA, B Ed. Certificate in ABET. 7 years experience in ABET
Simon Mofekeng	Sasol Synthetic Fuels (Pty) Ltd.	Chemical Energy, Paper, Printing, Wood and Allied Workers Union	12 years experience in Power Generation. 7 years experience in worker representation
Daan Muller	ESKOM	Electricity Commission ESKOM	31 years in power generation including 10 in education and training field
Sonette Nel	City Council of Pretoria	City Council of Pretoria	BA, HED 17 years experience in education and training. Head of Training Services, (City Council of Pretoria) CCOP
Trevor Oosthuizen	ESKOM	Electricity Commission ESKOM	26 years experience in power generation, 17 of which in training field
Dave Pawson	Sasol Synthetic Fuels (Pty) Ltd.	SASOL	28 years experience in power generation. Senior Training Officer, Steam Operations Training
Kedibone Pele	ESKOM	Electricity Commission ESKOM	BA Hons, MA (African Languages) 16 years experience in education and training, including four in power generation field

Casper Prinsloo	City Council of Pretoria	Independent Municipal and Allied Trade Union	32 years experience – fitter and turner. Superintendent Mechanical Maintenance
David Setlhake	SASOL Chemical Industries	SASOL Chemical Industries	Currently engaged in studies for B Tech. 6 years experience in engineering including 1 year as training officer
Selani Sithole	Kriel Power Station	Electricity Commission ESKOM	BSc (Civil Engineering) 6 years experience in engineering, including 1 year as training officer
Geoffrey Sleight	Kelvin Power Station	Greater Johannesburg Metropolitan Council	32 years experience in power generation, 13 of which in training field. Technical training advisor
Henry Ulster	ESKOM Peaking Generation	ESKOM Peaking Generation	21 years in education and training. 2 years in power generation field
Jahannes Borman	Technikon Pretoria	Committee of Technikon Principal (CTP)	Masters Diploma in Technology Lecturer (Electronical, Mechanical and Engineering) Head of Department: Power Engineering

**PUBLIC NOTICE BY NSB 04, COMMUNICATION STUDIES AND LANGUAGE, OF THE
REGISTRATION OF AN SGB FOR AUDIO-VISUAL PRODUCTION**

NSB04 hereby registers an SGB for Audio-Visual Production for a period of three years from 30 March 2001 until 30 April 2004

BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards in the sub-field audio-visual media studies from NQF level 2 through to level 6 [*Regulations 24(1)(e)*].
2. Generate qualifications and standards in accordance with SAQA requirements for NQF levels 2 to 4
 - Certificate in Television and Technical Operations (level 2 or at a level appropriate after development)
 - Certificate in Television Camera Assistance (level 2)
 - Certificate in Television Sound Assistance (level 2)
 - Certificate in Radio Sound Assistance (level 2)
 - Certificate in Video Editing (level 2)
 - Certificate in Radio Station Management (level 2 - 4) in community radio management electives (for SME constituent)
 - Certificate in Radio Technology (level 3)[*Regulations 24(1)(a)*]
3. Recommend qualifications and standards generated to the NSB 04 [*Regulation 24(1)(c)*].
4. Recommend criteria for registration of assessors and moderators or moderating bodies [*Regulation 24(1)(d)*].
5. Review these qualifications and unit standards and effect the necessary changes [*Regulation 24(1)(b)*].
6. Perform such other tasks as may, from time to time; be assigned by the NSB [*Regulation 24(1)(e)*].

COMPOSITION OF THE SGB

NAME	WORKPLACE	NOMINATING BODY	QUALIFICATION/ EXPERIENCE
Arden, D	Professional Photographers of South Africa (PPSA)	Professional Photographers of South Africa (PPSA)	International judge of photography, Honorary fellow of Professional Photographers of SA
Burnett, P	Natal Technikon	Natal Technikon	Head of Department for Video Technology
Clarke, A M	Head of Lighting Design: Multi Network (MNET)	Multi Network (MNET)	Worked at SABC as lighting design specialist, Supervision & Manager. Picture Quality Consultant & Studio consultant
Clay, P A	Primedia: Broadcasting & Independent Trainer	South African National Editors Forum	Experience in radio as reporter, producer, presenter, start-up manager, consultant, production manager
Danhausser, P	Wits TV	Wits TV	Diploma in Journalism, experience in live and pre-packaged programs on film & video, and single camera
Delpont, C A	Mercury Film & Television School	Mercury Film & Television School	Diploma in Journalism. Has worked as Assistant Director and Director on educational, documentary magazine programmes for SABC
Du Toit, J E	Department of Journalism, Rhodes University	Rhodes University	BA in Languages, Hons in African Studies, MA, Higher Diploma in Community Education
Engelbrecht, A C	South African Broadcasting Cooperation	South African Broadcasting Cooperation	Experience in radio & television

Glasson, S	Sasani Studios	Sasani Studios	BSc (Applied Chemistry)
Human, F	Pretoria Film School	Technikon Pretoria	National Certificate in Film Production, National Higher Diploma in Film Production and several BA Hons Degrees
Jamal, S	Bush Radio	Community Radio	Higher Education Diploma. Training manager at Bush Radio and has been involved in setting up a Broadcast Training Institute.
La Trobe, V	Commercial Producers Association	Commercial Producers Association	Has extensive experience in the Advertising industry in both Agency and Corporate environments
Mdlalose, S	Ntwela Productions CC	National Community Radio Forum (NCRF)	Bachelors of Commerce. Has worked as a station manager for Radio Turf
Molefe, S	Self-employed	Independent Producers Association (IPA)	BA in Management Advancement. Has worked as producer for various programmes
Mseleku, P	Television and Film Academy	South African National Film & Video Foundation Council	BSc in Psychology, Bed in Adult education, Diploma in Human Resources and Speech and Drama as well as Business Management.
Njapa, T	Radio Centre for Democratic Communications	National Community Radio Forum (NCRF)	National Diploma in Print & Broadcast Journalism
Nkalai, T	Development Media Agency	National Community Radio Forum (NCRF)	National Diploma in Banking and has extensive experience in community radio
Ntshangase, J	Institute of Advancement for Journalism	Institute of Advancement for Journalism	BA, BA Hons in Cultural & Media Studies

NAME	WORKPLACE	NOMINATING BODY	QUALIFICATION/ EXPERIENCE
Pretorius, P	Randse Afrikaanse Universiteit (RAU)	Randse Afrikaanse Universiteit (RAU)	BA & Honours in Communication. Currently doing M.A. in Communications
Setzen, H	Hot Shots Crew	National Television and Video Association (NTVA)	BA in Fine Arts, Higher Diploma in Education, Licentiate in Drama Teaching
Stewart, R J G	Rod Stewart Productions	The Camera Guild	Executive member of Entertainment Industry
Uys, P G	Technikon Pretoria	Technikon Pretoria	BA in Communications and National Higher Diploma in Film Production
Thomas, H	Busvannah Communications cc	National Television and Video Association (NTVA)	BA in Economics & Politics. Has extensive hands-on knowledge of production in film, Broadcasting, corporate, audio, animation, graphics & business practices

**PUBLIC NOTICE BY NSB 06, MANUFACTURING, ENGINEERING AND TECHNOLOGY TO
REGISTER AN SGB FOR CLOTHING MANUFACTURE**

NSB 06 hereby registers an SGB for Clothing Manufacture for a period of three years, until 05 March 2004.

BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards in the sub-field Manufacturing and Assembly in organising field 06 from Level 2 through to Level 5 in Clothing Manufacture *[Regulation 24(1)(e)]*.
2. Generate the following qualifications and standards in accordance with Authority requirements, at NQF Levels 1 to 5:

These would include compilation and coordination and production of clothing ranges; making and use of patterns; cutting, preparation and assembly of garment parts; finishing, pressing and packaging of garments *[Regulation 24(1)(a)]*.
 - National Certificate in Clothing Manufacturing Processes (levels 2 & 3)
 - National Certificate in Clothing Manufacturing Technology (level 4)
 - National Diploma in Clothing Manufacturing Technology (level 5)*[Regulation 24(1)(a)]*.
3. Recommend the qualifications and standards generated under 2 above to the National Standards Body *[Regulation 24(1)(c)]*.
4. Recommend criteria for the registration of assessors and moderators or moderating bodies *[Regulation 24(1)(d)]*
5. Review these qualifications and unit standards and effect the necessary changes *[Regulation 24 (1)(b)]*.
6. Maintain liaison during the process of developing standards and qualifications with other related Standards Generating Bodies as and when directed by NSB 06 *[Regulation 24(1)(e)]*.

COMPOSITION OF THE SGB

Nominee	Workplace	Nominating Body	Experience/Qualifications
Debbie Arends	Monviso Knitwear	South African Clothing and Textile Workers Union (SACTWU)	7 years experience in clothing industry. Member of two unit standards development projects and CTFL SETA Board
Hawa Asmal	AM Moola Group	Clothing, Textile, Leather and Footwear SETA (CTFL SETA)	Bcomm. 11 years in clothing industry. Executive Committee member, National Clothing Manufacturers Association (NCMA)
Marianne Bester	Peninsula Technikon	Council for Technikon Principals (CTP)	15 years in Education and Training. Member: Academic Board (Pentech) External moderator (UWC) Training task team (Clotex Small Business Centre)
Mark Buckenjohn	Rex Trueform Clothing Co.	South African Clothing and Textile Workers Union (SACTWU)	19 years in clothing industry. Clothing bargaining council and CTFL SETA Board member
Thomas Faichnie	Ellen Arthur Pty. Ltd.	Business	Higher National Diploma Business (HND) Bus.. CTFL SETA Regional Advisory Committee. Member Clothing Institute Cape Technikon Liaison Committee
Stuart Fletcher	Prestige Clothing	National Clothing Manufacturing (NCMA)	28 years in clothing industry. Member of Board of Directors: Prestige Clothing
Roz Havenga	Natal Technikon	Providers	Member of Senate, HOD Clothing Technology (Technikon Natal) Involved with Footwear and Textile SGBs
Reuben Kadalie	CSIR Centre for Fibre, Textiles and Clothing	Clothing, Textile, Leather and Footwear (CTFL) SETA	23 years manufacturing experience, including 15 years in clothing industry. Member of Advisory Committees to Pentech and SABS
Patricia Khuzwayo	Comet Undies	South African Clothing and Textile Workers Union (SACTWU)	27 years experience in clothing industry. Vice Chairperson of Natal Clothing Bargaining Council
Agnes Maritz	SANDF Centre for Advanced Training	South African National Defence Force (SANDF)	11 years in training, involved with community development

Peggy Marthinus	Bonwit Seardel	South African Clothing and Textile Workers Union (SACTWU)	17 years experience in the clothing industry, with active union involvement
Royston Morgan	Park Avenue Lingerie	Clothing, Textile, Leather and Footwear (CTFL) SETA	20 years experience in clothing industry, including 11 as maintenance manager involved with training
Nomusa Mthembu	SACTWU	South African Clothing and Textile Workers Union (SACTWU)	18 years experience in clothing industry, member of Regional Executive Council of SACTWU
Jeevaruthnam Naidu	Clothing Industry Skills Institute	Clothing Industry Skills Institute	17 years in clothing industry. Sector skills facilitator for CTFL SETA
Moonsamy Pandaram	Edcon Manufacturing	South African Clothing and Textile Workers Union (SACTWU)	14 years in clothing industry. Training officer and employee representative
Michael Reddy	CTFL SETA	Clothing, Textile, Footwear and Leather (CTFL) SETA	BComm (Hons) CITB Regional Advisory Committee Clotex Board member
Susan Smith	Celrose Clothing	National Clothing Manufacturing Association (NCMA)	21 years in clothing industry. CTFL SETA Advisory Committee Accreditation Committee, Natal Technikon Clothing Production Department
Alan van der Byl	CTFL SETA	Clothing Extile Footwear (CTFL) SETA	20 years experience in clothing sector. Training instructor for sewing machine technicians
Faldela Waggie	Straton Clothing	South African Clothing and Textile Workers Union (SACTWU)	16 years experience in clothing industry. Vice Chairperson SACTWU Woodstock branch

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28 March 2001

**PUBLIC NOTICE BY NSB 06, MANUFACTURING ENGINEERING AND TECHNOLOGY
TO REGISTER AN SGB FOR PLASTICS MANUFACTURING**

NSB 06 hereby registers an SGB for Plastics Manufacturing for the period of three years until 05 March 2004.

BRIEF OF THE SGB

1. Develop learning pathways for potential qualifications and standards in the sub-field Manufacturing and Assembly in organising field 06 from level 1 through to level 6 in Plastics Manufacture [*Regulation 24(1)(e)*].
2. Generate the following qualifications and standards in accordance with South African Authority requirements.

These would cover plastics manufacturing, including preparation and processing of plastics materials, and the use of moulds, dies and other forming devices [*Regulation 24 (1)(a)*].

- ♦ National Certificates in Plastics Manufacturing (levels 2 & 3)
 - ♦ Further Education and Training Certificate in Plastics Manufacturing (levels 4)
 - ♦ National Diploma in Plastics Manufacturing (level 5)
 - ♦ First National Degree in Plastics Manufacturing (level 6)
3. Recommend the qualifications and standards generated under 2 above to the National Standards Body [*Regulation 24(1)(c)*].
 4. Recommend criteria for the registration of assessors and moderators or moderating bodies [*Regulation 24(1)(d)*].
 5. Review these qualifications and unit standards and effect the necessary changes [*Regulation 24(1)(b)*].
 6. Maintain liaison, during the process of developing standards and qualifications, with other related Standards Generating Bodies as and when directed by NSB 06 [*Regulation 24(1)(e)*].

COMPOSITION OF THE SGB

Nominee	Workplace	Nominating Body	Experience/Qualification
Lorrie Abrahams	Nampak Polyfoil	Nampak Polyfoil (Business)	Production, Human Resource (HR) International Standards Organisation (ISO), Industrial Relations
George Ashmore	Trespaphan SA (Pty) Ltd	Trespaphan SA (Pty) Ltd (Business)	Maintenance, Production, Training, ISO, National, Occupational Safety Association
Kirtida Bhana	Plastics Federation of SA	Plastics Institute	Production, Quality, Training & Technical
Anton Hanekom	Plastics Federation of SA	Plastics Federation of South Africa (Provider)	HR, Training and Development
Wally Kinghorn	Denel Aviation	Denel Aviation (Business)	Technical, Maintenance, Design, Composites & Training
Josephine Makawa-Mbewe	Technikon Witwatersrand	Committee of Technikon Principals (CTP)	Involved with polymer research, Lecturer in Higher Education
Mosehla Mampho	Polyflow	Labour-South African Chemical Workers Union	Production, Sales, Shop Steward National Representative
Livingstone Matiwane	Chemical Energy Paper Printing Wood & Allied Workers Union	Labour-Chemical Energy Paper Printing Wood & Allied Workers Union	Technical Experience; Trade union education officer
Zachariah Mazibuko	Kahn & Kahn	Labour- Chemical Energy Paper Printing Wood & Allied Workers Union	Production, Shop Steward
Timothy Mollo	Venture Plastics	Labour- Chemical Energy Paper Printing Wood & Allied Workers	Production, Shop Steward
Xolile Mtwa	Dept of Trade and Industry	Department of Trade and Industry (Government)	BSc. Chemistry & Applied Chemistry
Brian Muir	National Employers Trade Union	Labour- National Employers Trade Union	Unionist, IR, standards setting (Engineering and Manufacturing Processes Pilot Project, 1966)
Edison Ntsibande	Plastall Gundle	Labour- Chemical Energy Paper Printing Wood & Allied Workers Union	Shop Steward, Production
Ralph Warrick	Consol Plastics	Consol Plastic (Business)	HR, Training and Development, Industrial Relations IR
Bernard Reeksting	Pretoria Technikon	Committee of Technikon Principals (CTP)	Technical, Education, Research Production, Training, Small and Medium Enterprises

Gehard van Staden	Centre for Trade Testing/ Indlela	Centre for Trade Testing / Indlela Government	Assessment, Trade Testing, Tool making
Christoph Vorwerk	Xasa Facilitating & Consulting	Convener/ Facilitator	Training, Education, Technical, Production and Standards Setting

No. 288

28 March 2001

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(2)(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Airconditioning, Refrigeration and Ventilation

registered by NSB 06, Manufacturing, Engineering and Technology, publishes the following unit standards for public comment.

This notice contains the titles, fields, subfields, NQF levels, credits, titles and specific outcomes of the unit standards. The unit standards can be accessed via the SAQA website at www.saqqa.org.za.

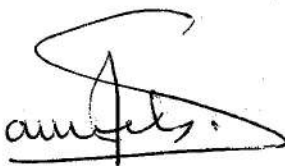
Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar Street, Brooklyn, Pretoria.

Comment on the unit standards should reach SAQA at the address below **by no later than 27 April 2001**. All correspondence should be marked Standards Setting: SGB for Airconditioning, Refrigeration and Ventilation and be addressed to:

The Director: Standards Setting and Development
SAQA

Attention: Sharon Vasuthevan
Postnet Suite 248
Private Bag X 06
WATERKLOOF
0145

or faxed to 012 346-5812
or e-mailed to sharon@saqa.co.za



pp Samuel Isaacs
Executive Officer

NATIONAL CERTIFICATE IN AIR CONDITIONING, REFRIGERATION AND VENTILATION - NQF LEVEL 2

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 2

Credits: 126

Purpose of qualification: This is the first qualification in a series for learners who want to follow a career in the air conditioning, refrigeration and ventilation industry.

For those who have been in the workplace for a long time, this qualification represents part of the RPL process to acknowledge workplace skills acquired without the benefit of formal education or training.

The qualification also forms the basis for further development.

The chief skills that are recognized in this qualification are:

- The use of industry related tools and measuring instruments
- The identification of equipment and components used
- The understanding of the operation of air conditioning, refrigeration and ventilation systems
- The carrying out of routine tasks under supervision.

To do this the learner needs to be capable of:

- Applying basic hand co-ordination skills
- Understand cognitive processes
- Relating principles and concepts to workplace activities, materials and equipment

What learners achieve in this qualification will also serve as a basis for further learning where they will be able to apply the acquired knowledge and skills in installing, servicing and maintaining air conditioning, refrigeration and ventilation equipment.

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1. Manage basic personal finances		6
2. Work in a team		3
3. Communicate with fellow workers and supervisors		4
4. Behave in a proper manner under working conditions		4
5. Work safely and use safety equipment		7
6. Demonstrate knowledge of the definitions and sections 1,8 and 14 of the OHS Act applicable to the employees in the air conditioning, refrigeration and ventilation industries		3
Additional communications, language and mathematics unit standards to NSB06 requirements		6
TOTAL		34
CORE		CREDITS
7. Identify, use and maintain measuring instruments used in the refrigeration, air conditioning and ventilation trades.		8
8. Identify, use and maintain hand tools used in the refrigeration, air conditioning and ventilation trades.		8
9. Identify, use and maintain refrigeration trade tools.		10
10. Identify and prepare for use the specialist tools/equipment of the refrigeration trade.		5
11. Identify electrical cables and electrical components used in the refrigeration, air conditioning and ventilation trades.		5
12. Explain the operation of basic vapour compression refrigeration systems.		8
13. Identify and explain the function of refrigeration system components		6
14. Identify and explain function of refrigeration system accessories.		6
15. Identify materials, piping, fittings, jointing methods and insulation materials used for refrigeration and air conditioning installations.		5
16. Identify refrigerant containers and explain handling procedures of refrigerants and containers		6
17. Identify and apply fixing methods used in the trade of refrigeration, air conditioning and ventilation		9
18. Clean refrigeration, air conditioning and ventilation plants, components and work sites.		4
TOTAL		80
ELECTIVE		CREDITS
19. Identify belt drives, couplings and gearboxes used on refrigeration plants and recognise misaligned, mismatched and worn components		5
20. Identify and state the application of various types of bearings used in refrigeration, air conditioning and ventilation plants.		3
21. Install self propelled transport refrigeration systems		4
TOTAL		12

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 2**1. Title: Manage basic personal finances**

- Specific outcome 1.1: Understand the value of money in a broad context.
- Specific outcome 1.2: Explain current pay-slip or monthly statement of income (can also be generic).
- Specific outcome 1.3: Open a bank account.
- Specific outcome 1.4: Demonstrate an understanding of ordinary taxes individuals pay in South Africa and distinguish needs and wants.
- Specific outcome 1.5: Budget for one year using current wage/salary/pay-slip as guideline.

2. Title: Work in a team

- Specific outcome 2.1: Demonstrate knowledge of the concept team, team players and teamwork.
- Specific outcome 2.2: Participate in discussions that deal with individual and team performance.
- Specific outcome 2.3: Participate in meetings.
- Specific outcome 2.4: Interact with team members.

3. Title: Communicate with fellow workers and supervisors

- Specific outcome 3.1: Demonstrate an understanding of the difference between verbal and non-verbal and one- and two-way communication.
- Specific outcome 3.2: Communicate effectively with team members and supervisors (so as not to be misunderstood).
- Specific outcome 3.3: Answer the telephone and take messages correctly.

4. Title: Behave in a proper manner under working conditions

- Specific outcome 4.1: Understand workplace ethics in the air conditioning, ventilation and refrigeration industry.
- Specific outcome 4.2: Identify and describe the characteristics of a successful worker in the air conditioning, ventilation and refrigeration industry.
- Specific outcome 4.3: Discuss the workplace ethics in air conditioning, ventilation and refrigeration industry and link it with social responsibility and growth.

5. Title: Work safely and use safety equipment

- Specific outcome 5.1: Check tools, equipment and site for safety.
- Specific outcome 5.2: Carry out the job safely.
- Specific outcome 5.3: Work safely under emergency conditions.
- Specific outcome 5.4: Leave the job site safely.

6. Title: Demonstrate knowledge of the definitions and Section 1, 8 and 14 of the OHS Act applicable to employees in the air conditioning, refrigeration and ventilation industries

Specific outcome 6.1: State the objectives of the OHS Act and explain the definitions.

Specific outcome 6.2: Interpret Section 8 of the OHS Act.

Specific outcome 6.3: Interpret Section 14 of the OHS Act.

7. Title: Identify, use and maintain measuring instruments used in the refrigeration, air conditioning and ventilation trades

Specific outcome 7.1: Identify and state the purpose of trade related measuring instruments.

Specific outcome 7.2: Use trade related measuring instruments.

Specific outcome 7.3: Maintain and store trade related measuring instruments.

8. Title: Identify, use and maintain hand tools used in the refrigeration, air conditioning and ventilation trades

Specific outcome 8.1: Identify and state the purpose of hand tools used in the air conditioning, refrigeration and ventilation trades

Specific outcome 8.2: Use hand tools used in the air conditioning, refrigeration and ventilation trades.

Specific outcome 8.3: Maintain hand tools used in the air conditioning, refrigeration and ventilation trades.

9. Title: Identify, use and maintain refrigeration trade tools

Specific outcome 9.1: Identify and state the purpose of each refrigeration trade tool.

Specific outcome 9.2: Use refrigeration trade tools.

Specific outcome 9.3: Maintain refrigeration trade tools.

10. Title: Identify and prepare for use the specialist tools/equipment of the refrigeration trade

Specific outcome 10.1: Identify the specialist tools/equipment used in the refrigeration trade.

Specific outcome 10.2: Prepare each of the specialist tools/equipment used in the refrigeration trade.

11. Title: Identify electrical cables and electrical components used in the refrigeration, air conditioning and ventilation trades

Specific outcome 11.1: Identify electrical cables used in the refrigeration, air conditioning and ventilation trades.

Specific outcome 11.2: Identify electrical components used in the refrigeration, air conditioning and ventilation trades.

12. Title: Explain the operation of basic vapour compression refrigeration systems

- Specific outcome 12.1: Explain, with the aid of a block diagram, the operation of the vapour compression refrigeration system.
- Specific outcome 12.2: Name the components and pipes in the block diagrams drawn and indicate direction of flow of refrigerant and water.
- Specific outcome 12.3: Explain the process taking place in each component.
- Specific outcome 12.4: Discuss the relationship between the pressure and the temperature of a refrigerant.

13. Title: Identify and explain the function of refrigeration system components

- Specific outcome 13.1: Identify and explain the function of the components and equipment of refrigeration systems
- Specific outcome 13.2: Handle and store components.

14. Title: Identify and explain function of refrigeration system accessories

- Specific outcome 14.1: Identify and explain the function of accessories of a refrigeration system.
- Specific outcome 14.2: Handle and store refrigeration system accessories.

15. Title: Identify materials, piping, fittings, jointing methods and insulation materials used for refrigeration and air conditioning installations

- Specific outcome 15.1: Identify and state the application of various materials used for refrigeration and air conditioning installation piping and fittings.
- Specific outcome 15.2: Identify and state application of various types of piping.
- Specific outcome 15.3: Identify and state purpose of various pipe fittings.
- Specific outcome 15.4: Identify and state purpose of various pipe jointing methods
- Specific outcome 15.5: Identify and state purpose of insulation materials used in refrigeration and air conditioning installations.
- Specific outcome 15.6: Identify and state purpose of piping support and securing fittings.

16. Title: Identify refrigerant containers and explain handling procedures of refrigerants and containers

- Specific outcome 16.1: Identify refrigerant containers, handle and store these without endangering persons or the environment.
- Specific outcome 16.2: Discuss the use of refrigerants in cooling plants.

17. Title: Identify and apply fixing methods used in the trade of refrigeration, air conditioning and ventilation

- Specific outcome 17.1: Identify and state the purpose and application of fixing methods, including keys and mechanical securing devices.
- Specific outcome 17.2: Apply fixing methods, including keys and locking devices.

18. Title: Clean refrigeration, air conditioning and ventilation plants, components and work sites

- Specific outcome 18.1: Identify and inspect plant, components and immediate areas to be cleaned.
- Specific outcome 18.2: Select tools and equipment to clean plant, components or work site.
- Specific outcome 18.3: Select and correctly use cleaning material.
- Specific outcome 18.4: Complete the cleaning operation.

19. Title: Identify belt drives, couplings and gearboxes used on refrigeration plants and recognise misaligned, mismatched and worn components

- Specific outcome 19.1: Identify gearboxes, tyre couplings, disc couplings, coupling and belt guards, v-belts, wedge or special profile (s.p.) belts, v-pulleys, s.p. pulleys, adjustable pitch pulleys, belt sizes, matched sets of belts, worn-out belts and pulleys, misaligned belt drives, misaligned couplings and mismatched combinations of v and s.p. belts.
- Specific outcome 19.2: State the consequences of belts mismatched for length, for type, for pulley profile and of misaligned belt drives and couplings.

20. Title: Identify and state the application of various types of bearings used in refrigeration, air conditioning and ventilation plants

- Specific outcome 20.1: Identify and state typical application of various types of bearings.
- Specific outcome 20.2: Explain the different methods of lubricating bearings.

21. Title: Install self-propelled transport refrigeration systems

- Specific outcome 21.1: Prepare to install the equipment.
- Specific outcome 21.2: Install the unit.
- Specific outcome 21.3: Connect the unit.
- Specific outcome 21.4: Carry out post-installation work.

NATIONAL CERTIFICATE IN AIR CONDITIONING, REFRIGERATION AND VENTILATION - NQF LEVEL 3

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 3

Credits: 206

Purpose of qualification: This is the second qualification in a series for learners who want to follow a career in the air conditioning, refrigeration and ventilation industry. For those who have been in the workplace for a long time, this qualification represents part of the RPL process to acknowledge workplace skills acquired without the benefit of formal education or training.

For the new entrant, this qualification recognises skills needed by a productive person in the industry. The qualification also forms the basis for further development. This qualification recognises the skills, knowledge and values acquired by learners involved in the installation, commissioning, maintenance and repair of air conditioning, refrigeration and ventilation equipment. Qualified learners will be able to competently install, repair and maintain air conditioning, refrigeration and ventilation equipment, without direct supervision, in order to provide a quality, cost effective service, and thereby make a living.

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1.	Manage basic business finance	6
2.	Lead a team, plan allocate and assess their work	4
3.	Communicate with clients	3
4.	Compile feasibility and commissioning reports	3
5.	Manage work time effectively	3
6.	Show understanding of diversity in the workplace	3
7.	Demonstrate basic knowledge of computers	6
8.	Demonstrate knowledge of the OHS Act as it affects experienced workers	4
TOTAL		48
CORE		CREDITS
16.	Operate and maintain (fixed and portable) power tools used in the refrigeration, air conditioning and ventilation trade	6
17.	Fault find a refrigeration plant stoppage or failure	5
18.	Identify, use and maintain electrical testing tools used in the trade of refrigeration	3
19.	Explain the operation of actual vapour compression refrigeration cycle	5
20.	Identify and explain the operation of refrigerant control devices	6
21.	Identify and explain the operation and function of refrigeration plant control and safety devices and defrost systems	5
22.	Join and install refrigerant piping	9
23.	Interpret basic (simplex) electrical diagrams	3
24.	Interpret refrigeration and air conditioning plant layout and component drawings, sketches and specifications	6
25.	Handle and place in position equipment used within the air conditioning, refrigeration and ventilation industry	4
26.	Apply elementary skills used in servicing, maintaining or starting up refrigeration systems	5
27.	Identify, handle and sample refrigeration oils for analysis, and demonstrate how oil can indicate the condition of a refrigeration system	3
28.	Design refrigerant piping circuits to ensure oil return	4
29.	State the application of and explain the operation of commonly applied air conditioning systems	8
30.	Carry out elementary airflow measurements and calculations	4
TOTAL		76
ELECTIVE		CREDITS
31.	Connect single-phase motors used in refrigeration, air conditioning and ventilation systems to power supplies	6
34.	Remove, install and service bearings used on refrigeration, air conditioning and ventilation equipment	6
35.	Determine the properties of air from a psychometric chart and carry out basic calculations involving heat and mass transfer	7
36.	Identify water piping systems, its components, accessories and controls used in refrigeration and air conditioning installations	4
37.	Operate water treatment systems used for refrigeration and air conditioning installations	3
38.	Identify and apply insulation methods and materials for piping and flat surfaces as applicable to refrigeration and air conditioning	6
39.	Maintain safety in the handling of hydrocarbon refrigerants	12
40.	Maintain safety in the handling of ammonia refrigerant	8
41.	Fit and supply air conditioners to vehicles	6
42.	Check and maintain air conditioners in vehicles	4
43.	Diagnose and repair air conditioner systems in vehicles	4
44.	Install externally powered transport refrigeration systems	6
45.	Install eutectic and multi-compartment transport refrigeration systems	10
TOTAL		82

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 3**1. Title: Manage basic business finance**

- Specific outcome 1.1: Describe the bigger economic environment and basic business principles using words, symbols and graphs.
- Specific outcome 1.2: Demonstrate an understanding of ordinary taxes businesses pay in South Africa and distinguish needs and wants in a small, medium and micro enterprise.
- Specific outcome 1.3: Draw up a basic budget for a small business and identify ways to practise control.

2. Title: Lead a team, plan, allocate and assess their work

- Specific outcome 2.1: Plan the work activities of a team.
- Specific outcome 2.2: Assess and report on issues within the team and team member performance.
- Specific outcome 2.3: Allocate work to team members

3. Title: Communicate with clients

- Specific outcome 3.1: Engage in an effective two-way communication discussion with customers.
- Specific outcome 3.2: Show a basic understanding of the role of body language and tone of voice when communicating.
- Specific outcome 3.3: Communicate effectively with customers on the telephone.

4. Title: Compile feasibility and commissioning reports

- Specific outcome 4.1: Demonstrate an understanding of the basic concepts used in the workplace when generating reports.
- Specific outcome 4.2: Identify three different types of reports required in the work environment and the type of information needed to compile the reports.
- Specific outcome 4.3: Arranging information together in such a way that the report is logical, easy to understand and applicable for use in the work environment.

5. Title: Manage work time effectively

- Specific outcome 5.1: Understand the concept of time management in a 24-hour day world.
- Specific outcome 5.2: Describe the differences between urgent and important and prioritise daily activities.
- Specific outcome 5.3: Estimate time spent on a task and draw up a general day, week and month planner to manage time effectively.

6. Title: Manage work time effectively

- Specific outcome 6.1: Demonstrate an understanding of cultural and other differences in the workplace.
- Specific outcome 6.2: Understand the concept stereotypes in the workplace.
- Specific outcome 6.3: Demonstrate a basic understanding of the role of change in the workplace.

7. Title: Demonstrate basic knowledge of computers

- Specific outcome 7.1: Define the concept computer.
- Specific outcome 7.2: Describe the difference between computer software and hardware and identify three possible software programmes that will be relevant to use in your working environment.
- Specific outcome 7.3: Demonstrate knowledge of basic computers and put it into practise.

8. Title: Demonstrate knowledge of the OHS Act as it affects experienced workers

- Specific outcome 8.1: Interpret Section 9 of the OHS Act.
- Specific outcome 8.2: Interpret Section 15 of the OHS Act.
- Specific outcome 8.3: Interpret Section 24 of the OHS Act.
- Specific outcome 8.4: Interpret the applicable sections of the 'general safety regulations'.

16. Title: Operate and maintain (fixed and portable) power tools used in the refrigeration, air conditioning and ventilation trade

- Specific outcome 16.1: Use power tools.
- Specific outcome 16.2: Maintain power tools.

17. Title: Fault find a refrigeration plant stoppage or failure

- Specific outcome 17.1: Preparing for the task of faultfinding a refrigeration system.
- Specific outcome 17.2: Establish possible electrical faults causing the plant stoppage.
- Specific outcome 17.3: Establish possible control faults causing the plant stoppage.
- Specific outcome 17.4: Establish possible mechanical faults causing the plant stoppage.
- Specific outcome 17.5: Report back to supervisor or client.

18. Title: Identify, use and maintain electrical testing tools used in the trade of refrigeration

- Specific outcome 18.1: Identify electrical testing tools used in the trade of refrigeration.
- Specific outcome 18.2: Use electrical testing tools used in the refrigeration trade to take readings of voltage, current and resistance.
- Specific outcome 18.3: Maintain electrical testing tools used in the refrigeration trade.

19. Title: Explain the operation of actual vapour compression refrigeration cycle

- Specific outcome 19.1: Explain the differences in operation between the theoretical and the actual vapour compression refrigeration cycle.
- Specific outcome 19.2: Compare and discuss the various types of vapour compression refrigeration.
- Specific outcome 19.3: Explain the operation of the various components in an actual vapour compression cycle.

20. Title: Identify and explain the operation of refrigerant control devices

Specific outcome 20.1: List, identify and state the purpose of refrigerant control devices.

Specific outcome 20.2: Explain the operation of refrigerant control devices.

Specific outcome 20.3: Explain the factors to be considered when installing control devices.

21. Title: Identify and explain the operation and function of refrigeration plant control and safety devices and defrost systems

Specific outcome 21.1: List the commonly applied controls, safety devices and defrost systems for refrigeration plants and explain their purpose and operation.

Specific outcome 21.2: List the various defrost systems and explain their purpose and operation.

Specific outcome 21.3: Identify refrigeration plant control and safety devices.

22. Title: Join and install refrigerant piping

Specific outcome 22.1: Form brazed joints.

Specific outcome 22.2: Form non-brazed joints.

Specific outcome 22.3: Install refrigerant pipes.

23. Title: Interpret basic (simplex) electrical diagrams

Specific outcome 23.1: Identify the electrical items/components in the machine, as represented by the symbols and lines on the diagram.

24. Title: Interpret refrigeration and air conditioning plant layout and component drawings, sketches and specifications

Specific outcome 24.1: State the purpose of technical drawings and specifications.

Specific outcome 24.2: List the methods of communicating technical information on drawings and in specifications.

Specific outcome 24.3: Interpret technical drawing.

25. Title: Handle and place in position equipment used within the air conditioning, refrigeration and ventilation industry

Specific outcome 25.1: Prepare to move or lift heavy equipment.

Specific outcome 25.2: Move or lift heavy equipment.

Specific outcome 25.3: Provide information to a rigger to enable him to rig safely and without damage.

26. Title: Apply elementary skills used in servicing, maintaining or starting up refrigeration systems

Specific outcome 26.1: Measure or determine the operating parameters of refrigeration systems.

Specific outcome 26.2: Compare the observations with the design parameters for the plant or with normally expected operating parameters.

Specific outcome 26.3: Operate the valves in a typical refrigeration system.

Specific outcome 26.4: Explain commonly used terms associated with refrigeration systems.

27. Title: Identify, handle and sample refrigeration oils for analysis, and demonstrate how oil can indicate the condition of a refrigeration system

Specific outcome 27.1: Identify refrigeration oils and explain and demonstrate the precautions to take when handling and storing oil to prevent it from becoming contaminated and unusable.

Specific outcome 27.2: Observe the oil in the compressor sump sight glass(es) and assess and report on the condition of the refrigeration system.

Specific outcome 27.3: Explain and demonstrate how oil sampling for analysis must be carried out.

28. Title: Design refrigerant piping circuits to ensure oil return

Specific outcome 28.1: Design a circuit for a system with a single, variable capacity compressor, a single condenser and a single dry expansion evaporator with a single metering device.

Specific outcome 28.2: Design a circuit with interconnected multiple, variable capacity compressors, with interconnected multiple condensers and interconnected multiple dry expansion evaporators, each with its own metering device.

29. Title: State the application of and explain the operation of commonly applied air conditioning systems

Specific outcome 29.1: Name and explain the operation of the commonly applied air conditioning systems.

Specific outcome 29.2: Identify and explain the operation of the controls associated with air-conditioning systems.

Specific outcome 29.3: State the type of control system required for the various air-conditioning systems and explain their operation.

30. Title: Carry out elementary airflow measurements and calculations

Specific outcome 30.1: Carry out calculations involving sizes and areas of square and round ducts.

Specific outcome 30.2: Carry out elementary airflow calculations.

Specific outcome 30.3: Measure air pressure in a duct.

Specific outcome 30.4: Evaluate results.

31. Title: Connect single-phase motors used in refrigeration, air conditioning and ventilation systems to power supplies

Specific outcome 31.1: Determine which terminals to connect the power source to.

Specific outcome 31.2: Connect power to power-input terminals

34. Title: Remove, install and service bearings used in refrigeration, air conditioning and ventilation equipment

Specific outcome 34.1: State the principle of operation and identify the various types of bearings.

- Specific outcome 34.2: State and explain typical applications of the various types of bearings.
- Specific outcome 34.3: State the purpose of removing, installing and servicing bearings.
- Specific outcome 34.4: Carry out removal, installation and servicing of bearings.

35. Title: Determine the properties of air from a psychometric chart and carry out basic calculations involving heat and mass transfer

- Specific outcome 35.1: Define and determine the properties of air and give the correct units and symbols.

36. Title: Identify water piping systems, its components, accessories and controls used in refrigeration and air conditioning installations

- Specific outcome 36.1: Identify and state the purpose of various piping systems.
- Specific outcome 36.2: Identify and state the purpose of the various components and accessories used in water piping systems.
- Specific outcome 36.3: Identify and state purpose of control of water flow in water piping systems.

37. Title: Operate water treatment systems used for refrigeration and air conditioning installations

- Specific outcome 37.1: Take water samples from each of the circuits.
- Specific outcome 37.2: Explain and demonstrate the safety precautions to take and the personal protective equipment (PPE) to wear when handling biocides and other chemicals used in treating the water.
- Specific outcome 37.3: Dose each circuit with the correct chemical(s) and in the amount prescribed in the analyst's report.

38. Title: Identify and apply insulation methods and materials for piping and flat surfaces as applicable to refrigeration and air conditioning

- Specific outcome 38.1: Identify and apply insulation methods and materials for piping and flat surfaces.
- Specific outcome 38.2: Explain properties and applications of different materials.
- Specific outcome 38.3: Plan application of insulation vapour barrier.
- Specific outcome 38.4: Apply insulation and vapour barrier material to piping and flat surfaces.

39. Title: Maintain safety in the handling of hydrocarbon refrigerants

- Specific outcome 39.1: Use refrigerants and understand their use in refrigerating systems.
- Specific outcome 39.2: Identify safe procedures in the handling of refrigerants.
- Specific outcome 39.3: Practice safe procedures in the handling of refrigerants.

40. Title: Maintain safety in the handling of ammonia refrigerants

- Specific outcome 40.1: Use ammonia refrigerant and understand its use in refrigerating systems.
- Specific outcome 40.2: Identify safe procedures in the handling of ammonia.

Specific outcome 40.3: Practice safe procedures in the handling of ammonia.

41. Title: Fit and supply air conditioners to vehicles

Specific outcome 41.1: Select kit.

Specific outcome 41.2: Fit kit to vehicle.

Specific outcome 41.3: Charge system.

Specific outcome 41.4: Test installation.

42. Title: Check and maintain air conditioners in vehicles

Specific outcome 42.1: Conduct visual and maintenance checks.

Specific outcome 42.2: Conduct physical checks.

Specific outcome 42.3: Conduct mechanical checks.

Specific outcome 42.4: Make final diagnosis.

43. Title: Diagnose and repair air conditioner system in vehicles

Specific outcome 43.1: Diagnose air conditioners.

Specific outcome 43.2: Repair fault.

44. Title: Install externally powered transport refrigeration systems

Specific outcome 44.1: Prepare to install the equipment.

Specific outcome 44.2: Install the equipment.

Specific outcome 44.3: Connect the unit electrically.

Specific outcome 44.4: Carry out post-installation work.

45. Title: Install eutectic and multi-compartment transport refrigeration systems

Specific outcome 45.1: Prepare to install the equipment.

Specific outcome 45.2: Install the equipment.

Specific outcome 45.3: Connect the unit electrically.

Specific outcome 45.4: Carry out post-installation work.

NATIONAL CERTIFICATE IN REFRIGERATION - NQF LEVEL 4

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 4

Credits: 149

Purpose of qualification: This is the third qualification in a series for learners following a career in the refrigeration or ventilation industry.

For those who have been active in the industry for a period of time, this qualification represents part of the RPL process to acknowledge skills acquired without the benefit of formal education or training.

The qualification also forms the basis for further development.

The main skills that are recognized in this qualification are commissioning, fault-finding and maintaining refrigeration plant and systems.

To do this the learner needs to:

- Understand the working principles of refrigeration
- Be able to interpret technical and related drawing
- Supervise junior workers/learners in the workplace.

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1. Manage basic business and personal finances		6
2. Communicate in an effective way with clients and fellow workers		4
3. Demonstrate knowledge of Sections 17, 18 and 37 and the regulations regarding driven machine electrical installations and electrical machinery of the OHS Act applicable to employees in the refrigeration industry		4
4. Supervise workers at levels 2 and 3		6
5. Generate a technical report		4
6. Understand, implement, maintain and monitor general quality standards		6
Additional communications, language, and mathematics unit standards		36
TOTAL		66
CORE		CREDITS
7. Draw free hand diagrams of typical electrical control and power circuits used in refrigeration machines, and explain their operating sequence		10
8. Interpret electrical power and control circuit diagrams relevant to refrigeration equipment		5
9. Fault-find and repair electrical circuits related to refrigeration installations		6
10. Apply advanced skills used in servicing, maintaining or starting up refrigeration systems		8
11. List, define and discuss refrigerant characteristics and properties		4
12. Select components and accessories for refrigeration installations		4
13. Dismantle and assemble refrigeration equipment		6
14. Explain function and operation of refrigeration plants, components, accessories and controls		4
15. Explain the need for water treatment and the methods and equipment used		4
TOTAL		51
ELECTIVE		
16. Find complex faults in a refrigeration installation		4
17. Commission a refrigeration system		8
18. Monitor a refrigeration system through the Building Management System		8
19. Repair and overhaul refrigeration equipment and components		12
TOTAL		32

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 4**1. Title: Manage basic business and personal finances**

- Specific outcome 1.1: Identify sources of income and expenditure and draw up a personal and business budget
- Specific outcome 1.2: Monitor and control activities against budgets
- Specific outcome 1.3: Justify proposals for expenditure on projects
- Specific outcome 1.4: Apply methods to grow the business financially

2. Title: Communicate in an effective way with clients and fellow workers

- Specific outcome 2.1: Identify assertive behaviour and discuss the advantages
- Specific outcome 2.2: Understand the importance of assertiveness as an important tool to use to communicate effectively
- Specific outcome 2.3: Use different techniques to be assertive

3. Title: Demonstrate advanced knowledge of the OHS Act

- Specific outcome 3.1: Interpret Section 17 of the OHS Act
- Specific outcome 3.2: Interpret Section 18 of the OHS Act
- Specific outcome 3.3: Interpret Section 37 of the OHS Act
- Specific outcome 3.4: Interpret the applicable sections of the 'driven machine regulations'
- Specific outcome 3.5: Interpret the applicable sections of the 'electrical installation regulations'
- Specific outcome 3.6: Interpret the applicable sections of the 'electrical machinery regulations'

4. Title: Supervise workers at levels 2 and 3

- Specific outcome 4.1: Plan the work methods and organise resources with individuals and teams
- Specific outcome 4.2: Update and achieve work objectives, delegate, control and organise individuals and teams
- Specific outcome 4.3: Supervise and manage production, work and services of individuals and teams
- Specific outcome 4.4: Evaluate performance of individuals and teams

5. Title: Generate a technical report

- Specific outcome 5.1: Collect information for writing the report
- Specific outcome 5.2: Plan the writing of the report
- Specific outcome 5.3: Write the report
- Specific outcome 5.4: Revise the report

6. Title: Understand, implement, maintain and monitor general quality standards

- Specific outcome 6.1: Ensure that adequate resources and personnel are readily accessible/available as required in terms of suitable equipment and a suitable working environment.

- Specific outcome 6.2: Acknowledge commitment to quality and maintain a quality system as a means of ensuring that product conforms to specified requirements. The procedures that form part of the quality system shall be dependent on the complexity of the work, the methods used, and the skill and training needed by personnel involved in carrying out the activity.
- Specific outcome 6.3: Abide by all statutory and regulatory requirements and other reference standards or codes indicated or referred to in procedures (For example, OHS Act requirements, etc.)
- Specific outcome 6.4: Ensure that procedures controlling and verifying the design of the product are met.
- Specific outcome 6.5: Ensure that pertinent issues of appropriate documents shall be available at all locations where operations essential to the effective functioning of the quality system are performed. Invalid and / or obsolete documents shall be promptly removed from all points of issue or use; or otherwise assured against unintended use. (Examples of these documents could include latest revisions of ACRICSA unit standards, drawings and other applicable specifications (governmental / mechanical) or work instructions or any other documented procedure defining
- Specific outcome 6.6: Ensure that purchased product conforms to specified requirements.
- Specific outcome 6.7: Ensure that procedures for the control of verification, storage and maintenance of customer-supplied products are complied with.
- Specific outcome 6.8: Ensure that product is always identifiable by suitable means and that this identification is recorded for reference purposes.
- Specific outcome 6.9: Ensure that requirements are met where results of processes (including associated equipment and personnel) are specified in terms of inspection and testing activities.
- Specific outcome 6.10: Ensure that inspection, measuring and test equipment is functionally adequate in terms of accuracy and fitness for use. This should be achieved through calibration, regular inspection and preservation of inspection, measuring and test equipment to ensure the conformance of results to specified requirements. (The measurement uncertainty must be known and consistent with the required measurement capability.)
- Specific outcome 6.11: Ensure that the inspection and test status of inspection, measuring and test equipment is identified by suitable means.
- Specific outcome 6.12: Ensure conformance of product to specified requirements so that non-conforming product is prevented from unintended use or installation.
- Specific outcome 6.13: Ensure that corrective or preventive action is taken to eliminate the cause of actual or potential non-conformities.
- Specific outcome 6.14: Ensure that procedures for handling, storage, packaging, preservation and delivering product are adhered to so preventing damage and / or deterioration to product.
- Specific outcome 6.15: Ensure that quality records are maintained to demonstrate conformance to specified requirements and the effective operation of the quality system.
- Specific outcome 6.16: Ensure that self and other personnel performing activities affecting quality are adequately trained to carry out these activities.
- Specific outcome 6.17: Where servicing is a specified requirement, ensure that procedures for performing, verifying and reporting that the servicing meets the specified requirements are met.
- Specific outcome 6.18: Ensure the application of statistical techniques where required for establishing, controlling and verifying process capability and product characteristics.

7. Title: Draw free hand diagrams of typical electrical control and power circuits used in refrigeration machines, and explain their operating sequence

- Specific outcome 7.1: Produce a free hand drawing of a power circuit for a refrigeration machine which

incorporates a star-delta, part-winding-start and direct on line (dol) starter for the main motors.

Specific outcome 7.2: Produce a free hand drawing of a control circuit containing a time clock with manual over ride, warning devices, ammeters, voltmeters, multi-position switches, safety switches, remote and local stop-start stations and single or auto pump-down to operate the power circuit in S.O.1.

Specific outcome 7.3: Write an explanation of the sequence of operation of the circuits.

8. Title: Interpret electrical power and control circuit diagrams relevant to refrigeration equipment

Specific outcome 8.1: Identify all types of contacts (e.g. n.o., n.c., timed, etc.)

Specific outcome 8.2: Identify all the components of the drawing.

Specific outcome 8.3: Locate all the contacts of specific relays throughout the drawing.

Specific outcome 8.4: Distinguish power circuit from control circuit diagrams.

Specific outcome 8.5: Describe the sequence of operation of the relays/contactors and all components, starting from any given point on the drawing.

9. Title: Fault-find and repair electrical circuits related to refrigeration installations

Specific outcome 9.1: Diagnose electrical faults

Specific outcome 9.2: Replace any and all faulty components

Specific outcome 9.3: Test repairs carried out

10. Title: Apply advanced skills used in servicing, maintaining or starting up refrigeration systems

Specific outcome 10.1: Set a refrigeration system in operation

Specific outcome 10.2: Service a refrigeration system

Specific outcome 10.3: Check and explain the purpose and operation of a defrost system.

Specific outcome 10.4: Bench-set pressure switches.

11. Title: List, define and discuss refrigerant characteristics and properties

Specific outcome 11.1: Name and define the physical characteristics and thermodynamic properties of commonly used refrigerants.

Specific outcome 11.2: Plot the refrigeration cycle on the Pressure-Enthalpy diagram and determine the refrigerant properties.

Specific outcome 11.3: Motivate the selection of a refrigerant.

12. Title: Select components and accessories for refrigeration installations

Specific outcome 12.1: Prepare for selecting components and accessories.

Specific outcome 12.2: Select components and accessories.

Specific outcome 12.3: Record results of selection of components and accessories.

13. Title: Dismantle and assemble refrigeration equipment

- Specific outcome 13.1: State the purpose of dismantling and assembly
Specific outcome 13.2: Plan the dismantling and assembly operation
Specific outcome 13.3: Carry out dismantling and assembly activities
Specific outcome 13.4: Post-assembly activities

14. Title: Explain function and operation of refrigeration plants, components, accessories and controls

- Specific outcome 14.1: Explain the function and operation of various refrigeration systems
Specific outcome 14.2: Explain the function and operation of various refrigeration system components and accessories
Specific outcome 14.3: Explain the function and operation of various refrigeration system controls

15. Title: Explain the need for water treatment and the methods and equipment used

- Specific outcome 15.1: Explain the long term effects untreated water had on chilled water circuits, condenser water circuits and hot water circuits and the consequent effect on the refrigeration plant, hot water generators and heat exchangers.
Specific outcome 15.2: Describe what methods are available to counteract the adverse effects that untreated water has on the various water circuits, and the advantages and disadvantages of each method.

16. Title: Find complex faults in a refrigeration installation

- Specific outcome 16.1: Establish the extent of the problem.
Specific outcome 16.2: Diagnose the problem.
Specific outcome 16.3: Demonstrate the use of trouble shooting procedures.

17. Title: Commission a refrigeration system

- Specific outcome 17.1: Plan and organise the commissioning of the plant.
Specific outcome 17.2: Commission the plant.
Specific outcome 17.3: Hand over the plant and complete commissioning documentation.

18. Title: Monitor a refrigeration system through the Building Management System

- Specific outcome 18.1: Log on to and log off from the computerised BMS system.
Specific outcome 18.2: Observe the system operating parameters and determine deviations from the normal design operating set points.
Specific outcome 18.3: Identify undesirable or unsuitable operating parameters and trends.

19. Title: Repair and overhaul refrigeration equipment and components

- Specific outcome 19.1: State the purpose and type of component overhaul and repair.
- Specific outcome 19.2: Plan the overhaul and repair operation.
- Specific outcome 19.3: Carry out repair and overhaul of equipment.
- Specific outcome 19.4: Carry out post-repair and overhaul activities.

NATIONAL CERTIFICATE IN AIR CONDITIONING AND VENTILATION - NQF LEVEL 4

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 4

Credits: 120

Purpose of qualification: This is the third qualification in a series for learners following a career in the air conditioning or ventilation industry.

For those who have been active in the industry for a period of time, this qualification represents part of the RPL process to acknowledge skills acquired without the benefit of formal education or training.

The qualification also forms the basis for further development.

The main skills that are recognized in this qualification are commissioning, fault-finding and maintaining air conditioning and ventilation or refrigeration plant and systems.

To do this the learner needs to:

- Understand the working principles of air conditioning and ventilation
- Be able to interpret technical and related drawing
- Supervise junior workers/learners in the workplace.

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1. Manage basic business and personal finances		6
2. Communicate in an effective way with clients and fellow workers		4
3. Demonstrate knowledge of Sections 17, 18 and 37 and the regulations regarding driven machine electrical installations and electrical machinery of the OHS Act applicable to employees in the air conditioning and ventilation industries		4
4. Supervise workers at levels 2 and 3		6
5. Generate a technical report		4
6. Understand, implement, maintain and monitor general quality standards		6
Additional communications, language and mathematics unit standards to NSB06 requirements		
TOTAL		30
CORE		CREDITS
7. Draw free hand diagrams of typical electrical control and power circuits used in air conditioning machines, and explain their operating sequence		10
8. Interpret electrical power and control circuit diagrams relevant to air conditioning equipment		5
9. Fault-find and repair electrical circuits related to air conditioning installations		6
10. Apply advanced skills used in servicing, maintaining or starting up refrigeration systems		8
11. List, define and discuss refrigerant characteristics and properties		4
12. Select components and accessories for refrigeration installations		4
13. Dismantle and assemble refrigeration and air conditioning equipment		6
14. Explain function and operation of refrigeration plants, components, accessories and controls		4
15. Explain the need for water treatment and the methods and equipment used		4
TOTAL		51
ELECTIVE		
16. Plot air conditioning processes on the psychometric chart and determine plant operating parameters		7
17. Commission a air conditioning and ventilation system		8
18. Monitor an air conditioning system through the Building Management System		8
TOTAL		39

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 4**1. Title: Manage basic business and personal finances**

- Specific outcome 1.1: Identify sources of income and expenditure and draw up a personal and business budget
- Specific outcome 1.2: Monitor and control activities against budgets
- Specific outcome 1.3: Justify proposals for expenditure on projects
- Specific outcome 1.4: Apply methods to grow the business financially

2. Title: Communicate in an effective way with clients and fellow workers

- Specific outcome 2.1: Identify assertive behaviour and discuss the advantages
- Specific outcome 2.2: Understand the importance of assertiveness as an important tool to use to communicate effectively
- Specific outcome 2.3: Use different techniques to be assertive

3. Title: Demonstrate advanced knowledge of the OHS Act

- Specific outcome 3.1: Interpret Section 17 of the OHS Act
- Specific outcome 3.2: Interpret Section 18 of the OHS Act
- Specific outcome 3.3: Interpret Section 37 of the OHS Act
- Specific outcome 3.4: Interpret the applicable sections of the 'driven machine regulations'
- Specific outcome 3.5: Interpret the applicable sections of the 'electrical installation regulations'
- Specific outcome 3.6: Interpret the applicable sections of the 'electrical machinery regulations'

4. Title: Supervise workers at levels 2 and 3

- Specific outcome 4.1: Plan the work methods and organise resources with individuals and teams
- Specific outcome 4.2: Update and achieve work objectives, delegate, control and organise individuals and teams
- Specific outcome 4.3: Supervise and manage production, work and services of individuals and teams
- Specific outcome 4.4: Evaluate performance of individuals and teams

5. Title: Generate a technical report

- Specific outcome 5.1: Collect information for writing the report
- Specific outcome 5.2: Plan the writing of the report
- Specific outcome 5.3: Write the report
- Specific outcome 5.4: Revise the report

6. Title: Understand, implement, maintain and monitor general quality standards

- Specific outcome 6.1: Ensure that adequate resources and personnel are readily accessible/available as required in terms of suitable equipment and a suitable working environment.

- Specific outcome 6.2: Acknowledge commitment to quality and maintain a quality system as a means of ensuring that product conforms to specified requirements. The procedures that form part of the quality system shall be dependent on the complexity of the work, the methods used, and the skill and training needed by personnel involved in carrying out the activity.
- Specific outcome 6.3: Abide by all statutory and regulatory requirements and other reference standards or codes indicated or referred to in procedures (For example, OHS Act requirements, etc.)
- Specific outcome 6.4: Ensure that procedures controlling and verifying the design of the product are met.
- Specific outcome 6.5: Ensure that pertinent issues of appropriate documents shall be available at all locations where operations essential to the effective functioning of the quality system are performed. Invalid and / or obsolete documents shall be promptly removed from all points of issue or use; or otherwise assured against unintended use. (Examples of these documents could include latest revisions of ACRICSA unit standards, drawings and other applicable specifications (governmental / mechanical) or work instructions or any other documented procedure defining
- Specific outcome 6.6: Ensure that purchased product conforms to specified requirements.
- Specific outcome 6.7: Ensure that procedures for the control of verification, storage and maintenance of customer-supplied products are complied with.
- Specific outcome 6.8: Ensure that product is always identifiable by suitable means and that this identification is recorded for reference purposes.
- Specific outcome 6.9: Ensure that requirements are met where results of processes (including associated equipment and personnel) are specified in terms of inspection and testing activities.
- Specific outcome 6.10: Ensure that inspection, measuring and test equipment is functionally adequate in terms of accuracy and fitness for use. This should be achieved through calibration, regular inspection and preservation of inspection, measuring and test equipment to ensure the conformance of results to specified requirements. (The measurement uncertainty must be known and consistent with the required measurement capability.)
- Specific outcome 6.11: Ensure that the inspection and test status of inspection, measuring and test equipment is identified by suitable means.
- Specific outcome 6.12: Ensure conformance of product to specified requirements so that non-conforming product is prevented from unintended use or installation.
- Specific outcome 6.13: Ensure that corrective or preventive action is taken to eliminate the cause of actual or potential non-conformities.
- Specific outcome 6.14: Ensure that procedures for handling, storage, packaging, preservation and delivering product are adhered to so preventing damage and / or deterioration to product.
- Specific outcome 6.15: Ensure that quality records are maintained to demonstrate conformance to specified requirements and the effective operation of the quality system.
- Specific outcome 6.16: Ensure that self and other personnel performing activities affecting quality are adequately trained to carry out these activities.
- Specific outcome 6.17: Where servicing is a specified requirement, ensure that procedures for performing, verifying and reporting that the servicing meets the specified requirements are met.
- Specific outcome 6.18: Ensure the application of statistical techniques where required for establishing, controlling and verifying process capability and product characteristics.

7. Title: Draw free hand diagrams of typical electrical control and power circuits used in air conditioning machines, and explain their operating sequence

- Specific outcome 7.1: Produce a free hand drawing of a power circuit for an air conditioning machine

which incorporates a star-delta, part-winding-start and direct on line (dol) starter for the main motors.

Specific outcome 7.2: Produce a free hand drawing of a control circuit containing a time clock with manual over ride, warning devices, ammeters, voltmeters, multi-position switches, safety switches, remote and local stop-start stations and single or auto pump-down to operate the power circuit in S.O.1.

Specific outcome 7.3: Write an explanation of the sequence of operation of the circuits.

8. Title: Interpret electrical power and control circuit diagrams relevant to air conditioning equipment

Specific outcome 8.1: Identify all types of contacts (e.g. n.o., n.c., timed, etc.)

Specific outcome 8.2: Identify all the components of the drawing.

Specific outcome 8.3: Locate all the contacts of specific relays throughout the drawing.

Specific outcome 8.4: Distinguish power circuit from control circuit diagrams.

Specific outcome 8.5: Describe the sequence of operation of the relays/contactors and all components, starting from any given point on the drawing.

9. Title: Fault-find and repair electrical circuits related to air conditioning installations

Specific outcome 9.1: Diagnose electrical faults

Specific outcome 9.2: Replace any and all faulty components

Specific outcome 9.3: Test repairs carried out

10. Title: Apply advanced skills used in servicing, maintaining or starting up refrigeration systems

Specific outcome 10.1: Set a refrigeration system in operation

Specific outcome 10.2: Service a refrigeration system

Specific outcome 10.3: Check and explain the purpose and operation of a defrost system.

Specific outcome 10.4: Bench-set pressure switches.

11. Title: List, define and discuss refrigerant characteristics and properties

Specific outcome 11.1: Name and define the physical characteristics and thermodynamic properties of commonly used refrigerants.

Specific outcome 11.2: Plot the refrigeration cycle on the Pressure-Enthalpy diagram and determine the refrigerant properties.

Specific outcome 11.3: Motivate the selection of a refrigerant.

12. Title: Select components and accessories for refrigeration installations

Specific outcome 12.1: Prepare for selecting components and accessories.

Specific outcome 12.2: Select components and accessories.

Specific outcome 12.3: Record results of selection of components and accessories.

13. Title: Dismantle and assemble refrigeration and air conditioning equipment

- Specific outcome 13.1: State the purpose of dismantling and assembly
Specific outcome 13.2: Plan the dismantling and assembly operation
Specific outcome 13.3: Carry out dismantling and assembly activities
Specific outcome 13.4: Post-assembly activities

14. Title: Explain function and operation of refrigeration plants, components, accessories and controls

- Specific outcome 14.1: Explain the function and operation of various refrigeration systems
Specific outcome 14.2: Explain the function and operation of various refrigeration system components and accessories
Specific outcome 14.3: Explain the function and operation of various refrigeration system controls

15. Title: Explain the need for water treatment and the methods and equipment used

- Specific outcome 15.1: Explain the long term effects untreated water had on chilled water circuits, condenser water circuits and hot water circuits and the consequent effect on the refrigeration plant, hot water generators and heat exchangers.
Specific outcome 15.2: Describe what methods are available to counteract the adverse effects that untreated water has on the various water circuits, and the advantages and disadvantages of each method.

16. Title: Plot air conditioning processes on the psychometric chart and determine plant operating parameters

- Specific outcome 16.1: Plot the processes occurring in the plants on the psychometric chart.
Specific outcome 16.2: Calculate the amount of sensible and latent heat added or removed.
Specific outcome 16.3: Calculate the amount of moisture added or removed.
Specific outcome 16.4: Calculate the air volume required for the various processes for a particular load.

17. Title: Commission an air conditioning or ventilation system

- Specific outcome 17.1: Plan and organise the commissioning of the plant.
Specific outcome 17.2: Commission the plant.
Specific outcome 17.3: Hand over the plant and complete commissioning documentation.

18. Title: Monitor an air conditioning system through the Building Management System

- Specific outcome 18.1: Log on to and log off from the computerised BMS system.
Specific outcome 18.2: Observe the system operating parameters and determine deviations from the normal design operating set points.
Specific outcome 18.3: Identify undesirable or unsuitable operating parameters and trends.

19. Title: Repair and overhaul refrigeration equipment and components

Specific outcome 19.1: State the purpose and type of component overhaul and repair.

Specific outcome 19.2: Plan the overhaul and repair operation.

Specific outcome 19.3: Carry out repair and overhaul of equipment.

Specific outcome 19.4: Carry out post-repair and overhaul activities.

NATIONAL DIPLOMA IN REFRIGERATION - NQF LEVEL 5

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 5

Credits: 240

Purpose of qualification: This is the fourth qualification in a series for learners following a career in the refrigeration industry.

The main skills that are recognized in this qualification are controlling operations and influencing decisions.

To do this the learner must:

- Have in-depth theoretical knowledge of the refrigeration industry
- Be able to relate principles and concepts to the design, installation, commissioning and maintenance of refrigeration systems and plants
- Be able to communicate effectively with others and with own group
- Comply with national and international standards on quality and safety related to refrigeration

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1.	Analyse work requirements and plan ahead	4
2.	Manage a team	4
3.	Communicate with clients and discuss work	26
4.	Use mathematics to investigate and monitor the financial aspects of personal, business and National issues	
5.	Work with a wide range of patterns and transformations of functions and solve related problems	
6.	Use structured models to describe, represent and analyse shape and motion in 2- and 3-dimensional space	
7.	Demonstrate understanding of real and complex number systems	
8.	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	
9.	Work with a wide range of patterns and inverses of functions and solve related problems	16
TOTAL		50
CORE		CREDITS
10.	Analyse the refrigeration cycle with the aid of the Pressure Enthalpy diagram and refrigerant tables	7
11.	Calculate the cooling requirements for cold and freezer rooms	6
12.	Calculate the cooling requirements for air conditioning applications	8
13.	Demonstrate knowledge of building construction and building services.	4
14.	Select and design simplex refrigeration systems.	5
15.	Compile and appraise a control sequence diagrams for air conditioning installations.	6
16.	Calculate the cost to run a refrigeration and/or air conditioning plants.	5
17.	Design air distribution systems for air conditioning, refrigeration or ventilation systems	10
18.	Select and specify vibration control systems in refrigeration and air conditioning systems	6
19.	Design hot and cold water reticulation systems for refrigeration and air conditioning applications	10
20.	Select types of refrigeration systems	8
21.	Demonstrate knowledge if air filtration system	6
22.	Demonstrate knowledge of capacity control systems	6
23.	Demonstrate knowledge of the OHS Act as it applied to employers and employees in the air conditioning and ventilation industries	5
TOTAL		92
ELECTIVE		CREDITS
24.	Engineer a building management system for air conditioning or refrigeration installations	10
25.	Commission a building management system for and air conditioning or refrigeration installation	8
26.	Plot the multi-stage refrigeration cycle on a P-h diagram and explain its operation.	6
27.	Compile an operating and maintenance manual	8
28.	Compile a commissioning and test report for a refrigeration and air conditioning installation	6
29.	Demonstrate knowledge of the absorption refrigeration system.	5
30.	Demonstrate knowledge of the refrigeration system operating on ammonia.	5
31.	Select power transmission systems and accessories.	6
32.	Demonstrate knowledge of noise control in systems.	10
33.	Demonstrate knowledge of economics as applied to the selection of refrigeration or air conditioning plants	8
34.	Demonstrate knowledge of water piping systems for refrigerating and air conditioning installations	8
TOTAL		98

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 5**1. Title: Analyse work requirements and plan ahead**

- Specific outcome 1.1: Identify and analyse relevant work requirements of different positions in the workplace
- Specific outcome 1.2: Evaluate the value of set work requirements
- Specific outcome 1.3: Compare analysis of work requirements with the relevant business plan and macro environment

2. Title: Manage a team

- Specific outcome 2.1: Identify and analyse input, process and output in the work place and draw up a progress report
- Specific outcome 2.2: Give oral and written feedback on work performance and relevant issues to team members
- Specific outcome 2.3: Build good human relations and motivate the team to achieve set goals and objectives

3. Title: Communicate with clients and discuss work

- Specific outcome 3.1: Listen attentively and respond to a communication
- Specific outcome 3.2: Be assertive and convey communication in a positive way
- Specific outcome 3.3: Use written communication to convey a message

10. Title: Analyse the refrigeration cycle with the aid of the Pressure Enthalpy diagram and refrigerant tables

- Specific outcome 10.1: Obtain all information required
- Specific outcome 10.2: Plot the refrigeration cycle on the Pressure Enthalpy diagram and determine refrigerant properties
- Specific outcome 10.3: Analyse the refrigeration cycle
- Specific outcome 10.4: Calculate the heat balance of the system

11. Title: Calculate the cooling requirements for cold and freezer rooms

- Specific outcome 11.1: Determine areas of heat transfer surfaces
- Specific outcome 11.2: Select the correct internal and external plant operating
- Specific outcome 11.3: Determine the refrigeration capacity required for a cold room
- Specific outcome 11.4: Determine the refrigeration capacity required for a freezer room

12. Title: Calculate the cooling requirements for air conditioning applications

- Specific outcome 12.1: Conduct a building survey
- Specific outcome 12.2: Calculate external loads
- Specific outcome 12.3: Calculate internal loads

Specific outcome 12.4: Complete the heat load estimate form

13. Title: Demonstrate knowledge of building construction and building services

Specific outcome 13.1: List the commonly used building materials and types of building construction

Specific outcome 13.2: State the effect of the types of commonly used building materials and building construction on the cooling and heating load of the building

Specific outcome 13.3: Name and discuss the building services included in a typical commercial building

14. Title: Select and design simplex refrigeration systems

Specific outcome 14.1: Identify customer and system requirements

Specific outcome 14.2: Design a system

15. Title: Compile and appraise a control sequence diagram for air conditioning installations

Specific outcome 15.1: Prepare for compiling a control sequence diagram

Specific outcome 15.2: Compile a control sequence diagram

Specific outcome 15.3: Interpret the control sequence diagram

16. Title: Calculate the cost to run a refrigeration and/or air conditioning plant

Specific outcome 16.1: Determine what portion of an actual electricity bill can be apportioned to an air conditioning or refrigeration machine

Specific outcome 16.2: Forecast the likely cost of electricity to run an air conditioning or refrigeration machine for a specified period of time (days/weeks/months/years) with and without load shifting, and show possible ways to save money

17. Title: Design air distribution systems for air conditioning, refrigeration or ventilation systems

Specific outcome 17.1: Size ducting to convey air and recommend construction methods

Specific outcome 17.2: Select the air terminals

Specific outcome 17.3: Calculate the pressure loss in the system

Specific outcome 17.4: Write a specification

18. Title: Select and specify vibration control systems in refrigeration and air conditioning systems

Specific outcome 18.1: Explain and discuss the principles of vibration

Specific outcome 18.2: Identify sources of vibration, explain the purpose of vibration control measures and discuss methods of isolating vibration

Specific outcome 18.3: Select vibration isolators

19. Title: Design hot and cold water reticulation systems for refrigeration and air conditioning applications

- Specific outcome 19.1: Recommend the type of water reticulation system and size of piping to convey water or water/glycol mixtures
- Specific outcome 19.2: Determine the required pipe sizes
- Specific outcome 19.3: Select the required fittings and accessories for flow control and maintenance
- Specific outcome 19.4: Determine the pump duty
- Specific outcome 19.5: Select the pump required for the system

20. Title: Select types of refrigeration systems

- Specific outcome 20.1: Determine projected owning and operating costs of system
- Specific outcome 20.2: Prepare schedule of quantities
- Specific outcome 20.3: Determine and apply costing procedures
- Specific outcome 20.4: Compile cost estimates and report

21. Title: Demonstrate knowledge of air filtration systems

- Specific outcome 21.1: Explain the capabilities of filters to capture particulate in terms of arrestance, efficiency and count
- Specific outcome 21.2: Describe the distinguishing features or characteristics of filters designed for primary, secondary and tertiary use, and recommend typical applications for each
- Specific outcome 21.3: Determine the cost of filters projected over a 2-year period, operating in identical conditions and designed for the same duty, from at least two, but no more than three, different manufacturers
- Specific outcome 21.4: Examine and assess the condition of a bank of filters, in terms of the suitability of the filters to produce the required results and the amount of useful lifespan remaining
- Specific outcome 21.5: Determine the type and number of filters required in a filter bank from information given about the air quantity and quality entering and required to leave the filters and the required lifespan

22. Title: Demonstrate knowledge of capacity control systems

- Specific outcome 22.1: List suitable applications for each method of control and explain why it is best suited compared to each of the others for that application
- Specific outcome 22.2: Calculate the value of the settings to be applied to each of the control devices necessary to maintain the conditions specified, when using each type of capacity control system
- Specific outcome 22.3: Commission capacity control systems employing each of the methods of control

23. Title: Demonstrate knowledge of the OHS Act as it applies to employers and employees in the air conditioning and ventilation industries

- Specific outcome 23.1: Interpret Section 10 of the OHS Act
- Specific outcome 23.2: Interpret Section 13 of the OHS Act
- Specific outcome 23.3: Interpret Section 19 of the OHS Act

- Specific outcome 23.4: Interpret Section 20 of the OHS Act
Specific outcome 23.5: Interpret the applicable sections of the regulations

24. Title: Engineer a building management system for air conditioning or refrigeration installations

- Specific outcome 24.1: Demonstrate understanding of the operation and function of a refrigeration or air conditioning plant
Specific outcome 24.2: Select the hardware for the building management system
Specific outcome 24.3: Create the data base
Specific outcome 24.4: Draw a wiring diagram for all points wired to the BMS
Specific outcome 24.5: Write the software, which complies with the specified brief

25. Title: Commission a building management system for an air conditioning or refrigeration installation

- Specific outcome 25.1: Prepare for commissioning the building management system
Specific outcome 25.2: Check and verify the operation of the BMS system
Specific outcome 25.3: Check the trending of data
Specific outcome 25.4: Train the BMS operator

26. Title: Plot the multi-stage refrigeration cycle on a P-h diagram and explain its operation

- Specific outcome 26.1: Explain the purpose of multi-stage vapour compression and its principles of operation
Specific outcome 26.2: Discuss the various types of multi-stage vapour compression systems and their applications
Specific outcome 26.3: Plot the multi-stage vapour compression system on a pressure-enthalpy diagram and carry out performance calculations

27. Title: Compile an operating and maintenance manual

- Specific outcome 27.1: Assemble all the information regarding the quantity, type and principle of operation of all the components in the installation, and the principle of operation of the system as a whole
Specific outcome 27.2: Compile all the information gathered into a manual which logically takes the reader through how the system works, what is in it and how to perform normally expected maintenance functions

28. Title: Compile a commissioning and test report for a refrigeration and air conditioning installation

- Specific outcome 28.1: Select and organise information
Specific outcome 28.2: Write introductory sections to the report
Specific outcome 28.3: Write the main body of the report
Specific outcome 28.4: Write conclusions and recommendations to the report

Specific outcome 28.5 Publish report according to specified format

29. Title: Demonstrate knowledge of the absorption refrigeration system

- Specific outcome 29.1: Explain and describe the operation of absorption refrigeration systems
- Specific outcome 29.2: Discuss the applications of the various types of absorption refrigeration systems
- Specific outcome 29.3: Demonstrate procedures for servicing and operating absorption refrigeration systems

30. Title: Demonstrate knowledge of the refrigeration system operating on ammonia

- Specific outcome 30.1: Explain operation of ammonia refrigerant systems
- Specific outcome 30.2: Design and select liquid ammonia pumped recirculation system and piping
- Specific outcome 30.3: Select main components for ammonia systems
- Specific outcome 30.4: Design and select compound ammonia refrigeration systems

31. Title: Demonstrate knowledge of noise control in systems

- Specific outcome 31.1: Explain the principles of noise and its measurement
- Specific outcome 31.2: Discuss and explain acoustical design criteria and select sound attenuation equipment
- Specific outcome 31.3: Discuss sound control methods and procedures

32. Title: Demonstrate knowledge of water piping systems for refrigerating and air conditioning installations

- Specific outcome 32.1: Describe and sketch a typical condenser water piping system capable of maintaining a closely controlled supply water temperature to the condenser(s)
- Specific outcome 32.2: Describe and sketch typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves
- Specific outcome 32.3: Describe and sketch a typical chilled water piping system with more than one air-to-water heat exchanger, each equipped with 2-way control valves
- Specific outcome 32.4: Describe and sketch a typical hot water piping system with more than one air-to-water heat exchanger, each equipped with 3-way control valves
- Specific outcome 32.5: Assess the functionality of typical condenser water circuits by comparing their operation with knowledge of typical condenser water circuits
- Specific outcome 32.6: Assess the functionality of typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves by comparing their operation with knowledge of typical chilled water circuits of this type
- Specific outcome 32.7: Assess the functionality of typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 2-way control valves by comparing their operation with knowledge of typical chilled water circuits of this type
- Specific outcome 32.8: Assess the functionality of typical hot water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves by comparing their operation with knowledge of typical hot water circuits of this type.

NATIONAL DIPLOMA IN AIR CONDITIONING AND VENTILATION - NQF LEVEL 5

Field: Manufacturing, Engineering and Technology

Sub Field: Air Conditioning, Refrigeration and Ventilation

NQF level: 5

Credits: 195

Purpose of qualification: This is the fourth qualification in a series for learners following a career in the air conditioning or ventilation industry.

The main skills that are recognized in this qualification are controlling operations and influencing decisions.

To do this the learner must:

- Have in-depth theoretical knowledge of the air conditioning and ventilation industry
- Be able to relate principles and concepts to the design, installation, commissioning and maintenance of air conditioning systems and plants
- Be able to communicate effectively with others and with own group
- Comply with national and international standards on quality and safety related to air conditioning and ventilation

QUALIFICATION MATRIX

FUNDAMENTAL		CREDITS
1. Analyse work requirements and plan ahead		4
2. Manage a team		4
3. Communicate with clients and discuss work		29
4. Use mathematics to investigate and monitor the financial aspects of personal, business and National issues		
5. Work with a wide range of patterns and transformations of functions and solve related problems		
6. Use structured models to describe, represent and analyse shape and motion in 2- and 3-dimensional space		
7. Demonstrate understanding of real and complex number systems		
8. Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues		
9. Work with a wide range of patterns and inverses of functions and solve related problems		19
TOTAL		56
CORE		CREDITS
10. Analyse the refrigeration cycle with the aid of the Pressure Enthalpy diagram and refrigerant tables		7
11. Calculate the cooling requirements for cold and freezer rooms		6
12. Calculate the cooling requirements for air conditioning applications		8
13. Demonstrate knowledge of building construction and building services.		4
14. Select and design simplex refrigeration systems.		5
15. Compile and appraise a control sequence diagrams for air conditioning installations.		6
16. Calculate the cost to run a refrigeration and/or air conditioning plants.		5
17. Design air distribution systems for air conditioning, refrigeration or ventilation systems		10
18. Select and specify vibration control systems in refrigeration and air conditioning systems		6
19. Design hot and cold water reticulation systems for refrigeration and air conditioning applications		10
20. Select types of refrigeration systems		8
21. Demonstrate knowledge if air filtration system		6
22. Demonstrate knowledge of capacity control systems		6
23. Select types of air conditioning systems.		10
24. Demonstrate knowledge of the OHS Act as it applied to employers and employees in the air conditioning and ventilation industries		5
TOTAL		102
ELECTIVE		CREDITS
25. Engineer a building management system for air conditioning or refrigeration installations		10
26. Commission a building management system for and air conditioning or refrigeration installation		8
27. Compile an operating and maintenance manual		8
28. Compile a commissioning and test report for a refrigeration and air conditioning installation		6
29. Select power transmission systems and accessories.		6
30. Demonstrate knowledge of noise control in systems.		10
31. Demonstrate knowledge of economics as applied to the selection of refrigeration or air conditioning plants		8
32. Demonstrate knowledge of water piping systems for refrigerating and air conditioning installations		8
TOTAL		82

UNIT STANDARDS AND SPECIFIC OUTCOMES NQF LEVEL 5**1. Title: Analyse work requirements and plan ahead**

- Specific outcome 1.1: Identify and analyse relevant work requirements of different positions in the workplace
- Specific outcome 1.2: Evaluate the value of set work requirements
- Specific outcome 1.3: Compare analysis of work requirements with the relevant business plan and macro environment

2. Title: Manage a team

- Specific outcome 2.1: Identify and analyse input, process and output in the work place and draw up a progress report
- Specific outcome 2.2: Give oral and written feedback on work performance and relevant issues to team members
- Specific outcome 2.3: Build good human relations and motivate the team to achieve set goals and objectives

3. Title: Communicate with clients and discuss work

- Specific outcome 3.1: Listen attentively and respond to a communication
- Specific outcome 3.2: Be assertive and convey communication in a positive way
- Specific outcome 3.3: Use written communication to convey a message

10. Title: Analyse the refrigeration cycle with the aid of the Pressure Enthalpy diagram and refrigerant tables

- Specific outcome 10.1: Obtain all information required
- Specific outcome 10.2: Plot the refrigeration cycle on the Pressure Enthalpy diagram and determine refrigerant properties
- Specific outcome 10.3: Analyse the refrigeration cycle
- Specific outcome 10.4: Calculate the heat balance of the system

11. Title: Calculate the cooling requirements for cold and freezer rooms

- Specific outcome 11.1: Determine areas of heat transfer surfaces
- Specific outcome 11.2: Select the correct internal and external plant operating
- Specific outcome 11.3: Determine the refrigeration capacity required for a cold room
- Specific outcome 11.4: Determine the refrigeration capacity required for a freezer room

12. Title: Calculate the cooling requirements for air conditioning applications

- Specific outcome 12.1: Conduct a building survey
- Specific outcome 12.2: Calculate external loads
- Specific outcome 12.3: Calculate internal loads

Specific outcome 12.4: Complete the heat load estimate form

13. Title: Demonstrate knowledge of building construction and building services

Specific outcome 13.1: List the commonly used building materials and types of building construction

Specific outcome 13.2: State the effect of the types of commonly used building materials and building construction on the cooling and heating load of the building

Specific outcome 13.3: Name and discuss the building services included in a typical commercial building

14. Title: Select and design simplex refrigeration systems

Specific outcome 14.1: Identify customer and system requirements

Specific outcome 14.2: Design a system

15. Title: Compile and appraise a control sequence diagram for air conditioning installations

Specific outcome 15.1: Prepare for compiling a control sequence diagram

Specific outcome 15.2: Compile a control sequence diagram

Specific outcome 15.3: Interpret the control sequence diagram

16. Title: Calculate the cost to run a refrigeration and/or air conditioning plant

Specific outcome 16.1: Determine what portion of an actual electricity bill can be apportioned to an air conditioning or refrigeration machine

Specific outcome 16.2: Forecast the likely cost of electricity to run an air conditioning or refrigeration machine for a specified period of time (days/weeks/months/years) with and without load shifting, and show possible ways to save money

17. Title: Design air distribution systems for air conditioning, refrigeration or ventilation systems

Specific outcome 17.1: Size ducting to convey air and recommend construction methods

Specific outcome 17.2: Select the air terminals

Specific outcome 17.3: Calculate the pressure loss in the system

Specific outcome 17.4: Write a specification

18. Title: Select and specify vibration control systems in refrigeration and air conditioning systems

Specific outcome 18.1: Explain and discuss the principles of vibration

Specific outcome 18.2: Identify sources of vibration, explain the purpose of vibration control measures and discuss methods of isolating vibration

Specific outcome 18.3: Select vibration isolators

19. Title: Design hot and cold water reticulation systems for refrigeration and air conditioning applications

- Specific outcome 19.1: Recommend the type of water reticulation system and size of piping to convey water or water/glycol mixtures
- Specific outcome 19.2: Determine the required pipe sizes
- Specific outcome 19.3: Select the required fittings and accessories for flow control and maintenance
- Specific outcome 19.4: Determine the pump duty
- Specific outcome 19.5: Select the pump required for the system

20. Title: Select types of refrigeration systems

- Specific outcome 20.1: Determine projected owning and operating costs of system
- Specific outcome 20.2: Prepare schedule of quantities
- Specific outcome 20.3: Determine and apply costing procedures
- Specific outcome 20.4: Compile cost estimates and report

21. Title: Demonstrate knowledge of air filtration systems

- Specific outcome 21.1: Explain the capabilities of filters to capture particulate in terms of arrestance, efficiency and count
- Specific outcome 21.2: Describe the distinguishing features or characteristics of filters designed for primary, secondary and tertiary use, and recommend typical applications for each
- Specific outcome 21.3: Determine the cost of filters projected over a 2-year period, operating in identical conditions and designed for the same duty, from at least two, but no more than three, different manufacturers
- Specific outcome 21.4: Examine and assess the condition of a bank of filters, in terms of the suitability of the filters to produce the required results and the amount of useful lifespan remaining
- Specific outcome 21.5: Determine the type and number of filters required in a filter bank from information given about the air quantity and quality entering and required to leave the filters and the required lifespan

22. Title: Demonstrate knowledge of capacity control systems

- Specific outcome 22.1: List suitable applications for each method of control and explain why it is best suited compared to each of the others for that application
- Specific outcome 22.2: Calculate the value of the settings to be applied to each of the control devices necessary to maintain the conditions specified, when using each type of capacity control system
- Specific outcome 22.3: Commission capacity control systems employing each of the methods of control

23. Title: Select types of air conditioning systems

- Specific outcome 23.1: Interpret and evaluate the design brief
- Specific outcome 23.2: Carry out a fundamental analysis
- Specific outcome 23.3: Select a system

24. Title: Demonstrate knowledge of the OHS Act as it applies to employers and employees in the air conditioning and ventilation industries

- Specific outcome 24.1: Interpret Section 10 of the OHS Act
- Specific outcome 24.2: Interpret Section 13 of the OHS Act
- Specific outcome 24.3: Interpret Section 19 of the OHS Act
- Specific outcome 24.4: Interpret Section 20 of the OHS Act
- Specific outcome 24.5: Interpret the applicable sections of the regulations

25. Title: Engineer a building management system for air conditioning or refrigeration installations

- Specific outcome 25.1: Demonstrate understanding of the operation and function of a refrigeration or air conditioning plant
- Specific outcome 25.2: Select the hardware for the building management system
- Specific outcome 25.3: Create the data base
- Specific outcome 25.4: Draw a wiring diagram for all points wired to the BMS
- Specific outcome 25.5: Write the software, which complies with the specified brief

26. Title: Commission a building management system for an air conditioning or refrigeration installation

- Specific outcome 26.1: Prepare for commissioning the building management system
- Specific outcome 26.2: Check and verify the operation of the BMS system
- Specific outcome 26.3: Check the trending of data
- Specific outcome 26.4: Train the BMS operator

27. Title: Compile an operating and maintenance manual

- Specific outcome 27.1: Assemble all the information regarding the quantity, type and principle of operation of all the components in the installation, and the principle of operation of the system as a whole
- Specific outcome 27.2: Compile all the information gathered into a manual which logically takes the reader through how the system works, what is in it and how to perform normally expected maintenance functions

28. Title: Compile a commissioning and test report for a refrigeration and air conditioning installation

- Specific outcome 28.1: Select and organise information
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- Specific outcome 29.2: Discuss and explain acoustical design criteria and select sound attenuation equipment
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30. Title: Demonstrate knowledge of water piping systems for refrigerating and air conditioning installations

- Specific outcome 30.1: Describe and sketch a typical condenser water piping system capable of maintaining a closely controlled supply water temperature to the condenser(s)
- Specific outcome 30.2: Describe and sketch typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves
- Specific outcome 30.3: Describe and sketch a typical chilled water piping system with more than one air-to-water heat exchanger, each equipped with 2-way control valves
- Specific outcome 30.4: Describe and sketch a typical hot water piping system with more than one air-to-water heat exchanger, each equipped with 3-way control valves
- Specific outcome 30.5: Assess the functionality of typical condenser water circuits by comparing their operation with knowledge of typical condenser water circuits
- Specific outcome 30.6: Assess the functionality of typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves by comparing their operation with knowledge of typical chilled water circuits of this type
- Specific outcome 30.7: Assess the functionality of typical chilled water piping systems with more than one air-to-water heat exchanger, each equipped with 2-way control valves by comparing their operation with knowledge of typical chilled water circuits of this type
- Specific outcome 30.8: Assess the functionality of typical hot water piping systems with more than one air-to-water heat exchanger, each equipped with 3-way control valves by comparing their operation with knowledge of typical hot water circuits of this type.

No. 289

28 March 2001

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(2)(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Clothing

registered by NSB 06, Manufacturing, Engineering and Technology, publishes the following unit standards for public comment.

This notice contains the titles, fields, subfields, NQF levels, credits, titles and specific outcomes of the unit standards. The unit standards can be accessed via the SAQA website at www.saqa.org.za.

Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar Street, Brooklyn, Pretoria.

Comment on the unit standards should reach SAQA at the address below **by no later than 27 April 2001**. All correspondence should be marked Standards Setting: SGB for Clothing and be addressed to:

The Director: Standards Setting and Development
SAQA

Attention: Sharon Vasuthevan

Postnet Suite 248

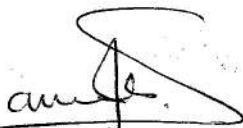
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or e-mailed to sharon@saqa.co.za



11

Samuel Isaacs
Executive Officer

NATIONAL CERTIFICATE IN CLOTHING MANUFACTURING**FIELD: MANUFACTURING ENGINEERING AND TECHNOLOGY****SUB-FIELD: CLOTHING MANUFACTURING****NQF LEVEL: 2****CREDITS: 141**

PURPOSE: These qualifications have been developed for personnel in the Clothing Industry. These standards address the needs of the clothing industry and they aim to develop a portfolio of standards and qualifications to develop competent individuals. Career pathing through a carefully planned succession of standards and qualifications will lead the industry to international competitiveness and development. These qualifications also provide a basis for further development of the learner into management areas within the clothing industry.

Qualification Matrix

	Level 2	Credits	Total
Fundamentals	Communication	20	36
	Mathematics	16	
Core	1. Check, clean, report, adjust and replace basic parts to machinery and equipment in a given work area	7	45
		7	
	2. Handle, select and store materials used in clothing manufacturing processes	11	
	3. Compare specifications to products and record and report on defects	6	
	4. Take care of self and others and report on risks and incidents in clothing manufacturing	14	
Elective	5. Apply production standards, receiving, recording and completing work in clothing manufacture		
	1. Prepare cutting processes by picking, laying, sorting and fusing	30	60
	or 2. Make patterns	30	
	or 3. Press, pack and prepare garments	30	
	or 4. Join component parts	30	
TOTAL			141

UNIT STANDARDS FOR CLOTHING MANUFACTURING NQF LEVEL 2

- Title 1: Join component parts
- Title 2: Press, pack and prepare garments
- Title 3: Prepare cutting processes by picking, laying, sorting and fusing
- Title 4: Take care of self and others and report on risks and incidents in clothing manufacturing
- Title 5: Compare specifications to products and record and report on defects
- Title 6: Apply production standards, receiving recording and completing work clothing manufacturing.
- Title 7: Handle, select and store materials used in clothing manufacturing processes
- Title 8: Check, clean, report, adjust and replace basic parts to machinery and equipment in a given work area
- Title 9: Make patterns

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES NQF LEVEL 2

1. **TITLE: JOIN COMPONENT PARTS**
 - Specific outcome 1.1: Identify and prepare parts
 - Specific outcome 1.2: Picking up, aligning and sewing parts together
 - Specific outcome 1.3: Disposing of completed sewn part/parts and passing on for operation
 - Specific outcome 1.4: Setting machines for specific operations when sewing parts of a garment
2. **TITLE: PRESS, PACK AND PREPARE GARMENTS**
 - Specific outcome 1.1: Pressing sewn products
 - Specific outcome 1.2: Sorting, tagging and packing sewn products
 - Specific outcome 1.3: Compiling, invoicing, processing and prioritising products for delivery

- 3. TITLE: PREPARE CUTTING PROCESSES BY PICKING, LAYING, SORTING AND FUSING**
- Specific outcome 1.1: Requisitioning, receiving and checklist materials according to worksheet
- Specific outcome 1.2: Distributing materials to different tables for lay preparations
- Specific outcome 1.3: Preparing tables according to marker
- Specific outcome 1.4: Laying fabric against lay planner/ quality standard and using appropriate equipment
- Specific outcome 1.5: Sorting and fusing cut work according to specifications
- Specific outcome 1.6: Cutting basic single layers of material
- 4. TITLE: TAKE CARE OF SELF AND OTHERS AND REPORT ON RISKS AND INCIDENTS IN CLOTHING MANUFACTURING**
- Specific outcome 1.1: Following rules and regulations when using, selecting, cleaning and maintaining tools and equipment
- Specific outcome 1.2: Interpreting how ones actions will interpret oneself and others
- Specific outcome 1.3: Reporting incidents using available verbal and written reporting mechanisms
- Specific outcome 1.4: Identifying risks and taking appropriate action
- Specific outcome 1.5: Identifying safety signs, colours and symbols within clothing manufacturing processes
- 5. TITLE: COMPARE SPECIFICATIONS TO PRODUCTS AND RECORD AND REPORT ON DEFECTS**
- Specific outcome 1.1: Select measuring tools for the appropriate measurement requirements
- Specific outcome 1.2: Identifying, selecting and using applicable product specifications
- Specific outcome 1.3: Selecting and using a reporting mechanism including frequencies and people to communicate quality issues

Specific outcome 1.4: Inspecting clothing products against specifications to pass, evaluate or discuss

Specific outcome 1.5: Analysing the results of a quality inspection and recording the relevant details

6. TITLE: APPLY PRODUCTION STANDARDS, RECEIVING, RECORDING AND COMPLETING WORK IN CLOTHING MANUFACTURE

Specific outcome 1.1: Apply standards for production of any garment in clothing processes

Specific outcome 1.2: Providing feedback and recommendations of deviations and shortcomings from production plans

Specific outcome 1.3: Recording present production methods and comparing with standard specifications

Specific outcome 1.4: Measuring output capacity

Specific outcome 1.5: Interpreting pre-production plans

7. TITLE: HANDLE, SELECT AND STORE MATERIALS USED IN CLOTHING MANUFACTURING PROCESSES

Specific outcome 1.1: Identifying and inspecting the materials against specifications and procedures

Specific outcome 1.2: Measuring the material against specifications and procedures

Specific outcome 1.3: Storing, packing, picking and recording movements of materials

Specific outcome 1.4: Processing the materials against agreed specifications and procedures

8. TITLE: CHECK, CLEAN, REPORT, ADJUST AND REPLACE BASIC PARTS TO MACHINERY AND EQUIPMENT IN A GIVEN WORK AREA

Specific outcome 1.1: Cleaning machinery and equipment according to maintenance plans and procedures

Specific outcome 1.2: Checking lubrication levels, general operation and settings to machinery and equipment to achieve quality standards and optimal performance

- Specific outcome 1.3: Adjusting basic settings according to standards or requirements
- Specific outcome 1.4: Replacing broken and worn parts within the thread path and a specified range of basic components
- Specific outcome 1.5: Selecting and using appropriate tools to perform basic routine maintenance functions
- Specific outcome 1.6: Reporting malfunctions and faults outside area of responsibility

9. TITLE: COMPILE, SKETCH AND ILLUSTRATE PROCESSES IN THE FORM OF A DESIGN PLAN

- Specific outcome 1.1: Applying basic costing principles to specifications given by customer using basic formula
- Specific outcome 1.2: Reading and interpreting specifications for customer requirements
- Specific outcome 1.3: Applying and identifying basic construction techniques to meet design specifications

10. TITLE: MAKE PATTERNS

- Specific outcome 1.1 Using all pattern making tools including manuals
- Specific outcome 1.2 Taking body measurements
- Specific outcome 1.3 Using all pattern making terminology
- Specific outcome 1.4 Making and drawing basic blocks
- Specific outcomes 1.5 Producing basic patterns

NATIONAL CERTIFICATE IN CLOTHING MANUFACTURING TECHNOLOGY**FIELD:** MANUFACTURING ENGINEERING AND TECHNOLOGY**SUB-FIELD:** CLOTHING MANUFACTURING**NQF LEVEL:** 4**CREDITS:** 130

PURPOSE: These qualifications have been developed for personnel in the Clothing Industry. These standards address the needs of the clothing industry and they aim to develop a portfolio of standards and qualifications to develop competent individuals. Career pathing through a carefully planned succession of standards and qualifications will lead the industry to international competitiveness and development. These qualifications also provide a basis for further development of the learner into management areas within the clothing industry.

**National Certificate in Clothing Manufacturing Technology (level 4)
Qualification Matrix**

	Standard Titles (level 4)	Credits	Total
Fundamentals	Communication	20	36
	Mathematical Sciences	16	
Core	1. Identify, source, classify and respond to design processes and systems	12	59
	2. Implement, monitor and maintenance plans and repair equipment to minimise stoppages	7	
	3. Identify, issue, receive, process and co-ordinate materials in clothing manufacturing processes	9	
	4. Maintain quality systems in the clothing industry	11	
	5. Develop, implement and monitor health and safety systems and policies in clothing manufacturing	7	
	6. Establish standards and plan, measure and monitor production in clothing manufacturing processes	13	
Elective	1. Mark, plan and cut fabrics or	35	35
	2. Compile and co-ordinate ranges or	35	
	3. Process, plan and implement special finishing or	35	
	4. Assemble complete garments	35	
Totals			130

UNIT STANDARDS FOR CLOTHING MANUFACTURING TECHNOLOGY (level 4)

- Title 1: Assemble complete garments
- Title 2: Process, plan and implement special finishing
- Title 3: Compile and co-ordinate ranges
- Title 4: Mark, plan and cut fabrics
- Title 5: Develop, implement and monitor health and safety systems and policies in clothing manufacturing.
- Title 6: Maintain a quality system in the clothing industry
- Title 7: Establish standards and plan, measure and monitor production in clothing manufacturing processes
- Title 8: Identify, issue, receive, process and co-ordinate materials in clothing manufacturing processes.
- Title 9: Implement, monitor and maintain maintenance plans and repair equipment to minimise stoppages.
- Title 10: Identify, source, classify and respond to design processes and systems.

UNIT STANDARDS TITLES AND SPECIFIC OUTCOMES NQF LEVEL 4

- 1. TITLE: ASSEMBLE COMPLETE GARMENTS**
- Specific outcome 1.1: Identify and selecting correct machine and work aid for each operation in a garment
- Specific outcome 1.2: Determining sequence of operations and construction methods
- Specific outcome 1.3: Reading and interpreting specifications
- Specific outcome 1.4: Sewing all components together
- Specific outcome 1.5: Selecting and preparing trims for a garment
- 2. TITLE: PROCESS, PLAN AND IMPLEMENT FINISHING**
- Specific outcome 1.1: Implementing procedures and policies according to Customer requirements
- Specific outcome 1.2: Processing special finishing techniques including Scotch-guarding, wrinkle finishing and stone washing

3. **TITLE:** **COMPILE AND CO-ORDINATE RANGES**
- Specific outcome 1.1: Compiling and making a presentation of various ranges
- Specific outcome 1.2: Compiling and developing ranges within customer costing structures
- Specific outcome 1.3: Co-ordinating customer orders through product development processes
- Specific outcome 1.4: Adapting various patterns
4. **TITLE:** **MARK, PLAN AND CUT FABRICS**
- Specific outcome 1.1: Preparing marker against specifications and lay plan
- Specific outcome 1.2: Cutting according to marker taking into account different fabric types and using appropriate equipment
- Specific outcome 1.3: Ensuring optimum fabric utilisation for specific cutting operations
- Specific outcome 1.4: Planning work load and monitoring progress
5. **TITLE:** **DEVELOP, IMPLEMENT AND MONITOR HEALTH AND SAFETY SYSTEMS AND POLICIES IN CLOTHING MANUFACTURING**
- Specific outcome 1.1: Implementing corrective and preventative action to enhance safety and health systems in the workplace
- Specific outcome 1.2: Monitoring policies and procedures and measuring safety and health results in the workplace
- Specific outcome 1.3: Identifying appropriate training needs for health, safety and security
- Specific outcome 1.4: Installing, implementing or improving a safety and security system in the clothing industry
- Specific outcome 1.5: Identifying and selecting appropriate health, safety and security procedures, devises and equipment for implementation to the clothing context
- Specific outcome 1.6: Identifying hazards and risks which will affect the health and safety of people and property
- Specific outcome 1.7: Creating awareness around health and safety

- 6. TITLE: MAINTAIN A QUALITY SYSTEM IN THE CLOTHING INDUSTRY**
- Specific outcome 1.1: Analysing quality problems and solutions for corrective action
- Specific outcome 1.2: Assessing data relating to a quality assurance system to determine effectiveness
- Specific outcome 1.3: Monitoring quality in clothing to ensure application of standards
- Specific outcome 1.4: Conducting quality audits using correct sample sizes and to correct specifications
- Specific outcome 1.5: Maximising the utilisation of resources to aid quality practices
- 7. TITLE: ESTABLISH STANDARDS AND PLAN, MEASURE AND MONITOR PRODUCTION IN CLOTHING MANUFACTURING PROCESSES**
- Specific outcome 1.1: Maintaining acceptable levels of productivity against set standards including times, methods and quality
- Specific outcome 1.2: Applying work measurement to establish standard times
- Specific outcome 1.3: Analysing processes and resources to produce and implement effective work methods
- Specific outcome 1.4: Measuring and monitoring performance against pre-determined standards
- Specific outcome 1.5: Producing production plans to meet customer demands
- 8. TITLE: IDENTIFY, ISSUE, RECEIVE, PROCESS AND CO-ORDINATE MATERIALS IN CLOTHING MANUFACTURING PROCESSES**
- Specific outcome 1.1: Supplying and issuing materials according to requirements
- Specific outcome 1.2: Handling and storing materials using specific equipment and methods
- Specific outcome 1.3: Issuing correct materials to the right place at the right time

- Specific outcome 1.4: Checking received goods systematically against delivery notes and company purchase orders to verify correctness
- Specific outcome 1.5: Processing documentation required in a materials store
- Specific outcome 1.6: Identifying, classifying and labeling goods received according to agreed specifications

9. TITLE: IMPLEMENT, MONITOR AND MAINTAIN MAINTENANCE PLANS AND REPAIR EQUIPMENT TO MINIMISE STOPPAGES

- Specific outcome 1.1: Implementing a maintenance plan effectively to minimise downtime
- Specific outcome 1.2: Maintaining and monitoring the plan in order to prevent and /or reduce machine downtime in planned, preventative and breakdown maintenance.
- Specific outcome 1.3: Identifying problems and using relevant tools in order to ensure timeous repairs according to specifications
- Specific outcome 1.4: Maintaining records of maintenance plans and modifying plans as appropriate

10. TITLE: IDENTIFY, SOURCE, CLASSIFY AND RESPOND TO DESIGN PROCESSES AND SYSTEMS

- Specific outcome 1.1: Identifying and responding to technology in terms of specific design
- Specific outcome 1.2: Selecting colours and materials that work in relation to a specific design
- Specific outcome 1.3: Classifying the market sector for which the design intended
- Specific outcome 1.4: Identifying systems and techniques used in processing a design

NATIONAL DIPLOMA IN CLOTHING MANUFACTURING TECHNOLOGY**FIELD:** MANUFACTURING, ENGINEERING AND TECHNOLOGY**SUB-FIELD:** CLOTHING MANUFACTURING**NQF LEVEL:** 5**CREDIT:** 299

PURPOSE: These qualifications have been developed for personnel in the Clothing Industry. These standards address the needs of the clothing industry and they aim to develop a portfolio of standards and qualifications to develop competent individuals. Career pathing through a carefully planned succession of standards and qualifications will lead the industry to international competitiveness and development. These qualifications also provide a basis for further development of the learner into management areas within the clothing industry.

**National Diploma in Clothing Manufacturing Technology (level 5)
Qualification Matrix**

	Level 5	Credits	Total
Fundamentals	Communication	20	36
	Mathematics	16	
Core	1. Develop and manage maintenance policies in a clothing environment	20	91
	2. Research, analyse, source, develop and improve on materials and handling systems used in clothing	30	
	3. Strategise, research, develop and review production systems in clothing	14	
	4. Develop and improve on a quality system in the clothing industry	27	
Elective	1. Engineer patterns and garments	100	172
	2. Produce a range of garments applying cutting, sewing and finishing processes	72	
TOTAL			299

STANDARDS FOR CLOTHING MANUFACTURING TECHNOLOGY NQF LEVEL 5

Title 1: Engineer patterns and garments

Title 2: Develop and improve on a quality system in the clothing industry

Title 3: Strategise, research, develop and review production systems in clothing

Title 4: Research, analyse, source develop and improve on materials and handling systems used in clothing

Title 5: Develop and manage maintenance policies in a clothing environment

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES NQF LEVEL 5**1. TITLE: ENGINEER PATTERNS AND GARMENTS**

- | | |
|-----------------------|--|
| Specific outcome 1.1: | Engineering patterns for garment production |
| Specific outcome 1.2: | Developing and monitoring critical paths through a product |
| Specific outcome 1.3: | Engineering garments in clothing |

2. TITLE: DEVELOP AND IMPROVE ON A QUALITY SYSTEM IN THE CLOTHING INDUSTRY

- | | |
|-----------------------|--|
| Specific outcome 1.1: | Assessing a clothing company's tools and infrastructure for a quality system |
| Specific outcome 1.2: | Researching quality to determine range of systems and options |
| Specific outcome 1.3: | Auditing a quality system to determine efficiency |
| Specific outcome 1.4: | Writing quality standards to meet a company's vision, goals and objectives |
| Specific outcome 1.5: | Implementing and monitoring a new or enhanced quality system ensuring integration and acceptance |

3. TITLE: STRATEGISE, RESEARCH, DEVELOP AND REVIEW PRODUCTION SYSTEMS IN CLOTHING

- | | |
|-----------------------|--|
| Specific outcome 1.1: | Optimising the use of resources to improve on work processes in clothing manufacturing |
| Specific outcome 1.2: | Evaluating production processes |

- Specific outcome 1.3: Analysing and recommending methods of cost management
- Specific outcome 1.4: Researching, comparing and optimising production systems
- Specific outcome 1.5: Enhance and manage the development of methods and standards

**4. TITLE: RESEARCH, ANALYSE, SOURCE, DEVELOP AND IMPROVE
 ON MATERIALS HANDLING SYSTEMS USED IN CLOTHING**

- Specific outcome 1.1: Sourcing and buying appropriate materials according to customer requirements
- Specific outcome 1.2: Researching new materials appropriate to industry and market requirements that would improve quality and cost
- Specific outcome 1.3: Analysing test results and information against specifications to evaluate suppliers
- Specific outcome 1.4: Evaluating, developing and continuously improving materials handling processes
- Specific outcome 1.5: Controlling and improving a stock control policy

**5. TITLE: DEVELOP AND MANAGE MAINTENANCE POLICIES IN
 A CLOTHING ENVIRONMENT**

- Specific outcome 1.1: Researching and developing current technology to meet future maintenance requirements of the business
- Specific outcome 1.2: Managing the maintenance policy to meet the needs of the business
- Specific outcome 1.3: Comparing current maintenance expenditure with the budget and making appropriate recommendations
- Specific outcome 1.4: Evaluating the maintenance plan to ensure production plans are met.
- Specific outcome 1.5: Reviewing and evaluating maintenance policies

No. 290

28 March 2001

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(2)(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Footwear

registered by NSB 06, Manufacturing, Engineering and Technology, publishes the following unit standards for public comment.

This notice contains the titles, fields, subfields, NQF levels, credits, titles and specific outcomes of the unit standards. The unit standards can be accessed via the SAQA website at www.saqo.org.za.

Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar Street, Brooklyn, Pretoria.

Comment on the unit standards should reach SAQA at the address below **by no later than 27 April 2001**. All correspondence should be marked Standards Setting: SGB for Footwear and be addressed to:

The Director: Standards Setting and Development
SAQA

Attention: Sharon Vasuthevan

Postnet Suite 248

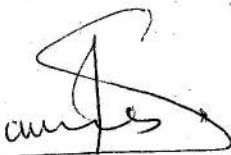
Private Bag X 06

WATERKLOOF

0145

or faxed to 012 346-5812

or e-mailed to sharon@saqa.co.za



PP

Samuel Isaacs
Executive Officer

NATIONAL CERTIFICATE IN FOOTWEAR PROCESSES

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Footwear Manufacturing
NQF Level	:2
Credits	:120
Purpose	:Learners assessed competent against these standards will be able to sketch drawings and measure components of footwear in the footwear industry in South Africa through determining and drawing the centre line on the last and measuring basic dimensions of feet and lasts. Learners will also be able to identify sizes, styles and ranges of footwear as well as identify parts of a shoe and describe their relationship with each other.

National Certificate in Footwear Processes (NQF 2)
Qualification Matrix

	Level 2		Total
Fundamentals	Communication Mathematics	20 16	36
Core	1.Sketch drawings and measure components footwear 2.Monitor quality in footwear manufacturing 3.Maintain footwear equipment and machines 4.Identify and handle materials in footwear 5.Comply with health safety and environmental issues in footwear 6.Demonstrate understanding of the footwear industry, its structure, stakeholders, terms, concepts and processes	11 11 9 13 6 10	60
Elective	1.Undertake closing processes to join components in footwear or 2.Undertake clicking processes to cut upper components of footwear or 3.Undertake making processes to assemble and attach uppers and bottoms in footwear or 4.Undertake processes to cut bottom stock for footwear or 5.Undertake finishing and dressing processes in footwear or 6.Undertake pattern cutting design processes in footwear	24 24 24 24 24 24	24
TOTAL			120

UNIT STANDARDS FOR FOOTWEAR PROCESSES

Unit Standards at NQF Level 2

1. Title: Sketch drawings and measure components footwear
2. Title: Demonstrate understanding of the footwear industry, its structure, stakeholders, terms, concepts and processes.
3. Title: Maintain footwear equipment and machines
4. Title: Identify and handle materials in footwear
5. Title: Monitor quality in footwear manufacturing
6. Title: Comply with health, safety and environmental issues in footwear
7. Title: Undertake processes to cut bottom stock for footwear
8. Title: Undertake clicking processes to cut upper components of footwear
9. Title: Undertake closing processes to join components in footwear
10. Title: Undertake finishing and dressing processes in footwear
11. Title: Undertake making processes to assemble and attach uppers and bottoms in footwear
12. Title: Undertake pattern cutting and design processes in footwear

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 2

1. Title: Sketch drawings and measure components footwear

- | | |
|----------------------|---|
| Specific Outcome 1.1 | Determining and drawing the centre line on the last |
| Specific Outcome 1.2 | Measuring basic dimensions of feet and lasts |
| Specific Outcome 1.3 | Identifying sizes, styles and ranges of footwear |
| Specific Outcome 1.4 | Identifying the parts of a shoe and their relationships with each other |

2. Title: Demonstrate understanding of the footwear industry, its structure, stakeholders, terms, concepts and processes

- | | |
|----------------------|--|
| Specific Outcome 2.1 | Relating processes and support functions in footwear |
| Specific Outcome 2.2 | Identifying stakeholders (local and international) in the footwear industry |
| Specific Outcome 2.3 | Defining functions, general terms and concepts of various structures in footwear manufacturing |

3. Title: Maintain footwear equipment and machines

- | | |
|----------------------|---|
| Specific Outcome 3.1 | Lubricating footwear machines |
| Specific Outcome 3.2 | Observing processes to determine defect/causes to prevent down time |
| Specific Outcome 3.3 | Interacting with operators, engineers and support |
| Specific Outcome 3.4 | Cleaning and maintaining machines and equipment |

4. Title: Identify and handle materials in footwear

Specific Outcome 4.1	Identifying a range of shoe components
Specific Outcome 4.2	Verifying quantities to determine overs and unders
Specific Outcome 4.3	Handling materials within processes
Specific Outcome 4.4	Interpreting material specifications

5. Title: Monitor quality in footwear manufacturing

Specific Outcome 5.1	Inspecting products to determine adherence to specifications
Specific Outcome 5.2	Monitoring settings, actions and improvements to maximise quality
Specific Outcome 5.3	Reporting on quality issues to enable actions to be taken
Specific Outcome 5.4	Recording defects, returns and complaints for analysis

6. Title: Comply with health, safety and environmental issues in footwear

Specific Outcome 6.1	Preventing accidents to ensure safe working environment
Specific Outcome 6.2	Following emergency procedures to ensure order
Specific Outcome 6.3	Labelling hazardous substances to meet procedures
Specific Outcome 6.4	Protecting self, machine and environment to prevent accidents

7. Title: Undertake processes to cut bottom stock for footwear

Specific Outcome 7.1	Identifying and selecting appropriate machines and equipment for cutting of bottom stock used in footwear
Specific Outcome 7.2	Cutting bottom components using a range of machinery and equipment
Specific Outcome 7.3	Cutting bottom components by hand
Specific Outcome 7.4	Selecting and preparing consumable for cutting bottom stock used in footwear manufacturing
Specific Outcome 7.5	Applying work instructions to cut a range of bottom components
Specific Outcome 7.6	Placing patterns to process and produce bottom stock

8. Title: Undertake clicking processes to cut upper components of footwear

Specific Outcome 8.1	Identifying and selecting appropriate machines and equipment for cutting of uppers used in footwear
Specific Outcome 8.2	Cutting upper components using a range of machinery and equipment
Specific Outcome 8.3	Cutting upper components by hand
Specific Outcome 8.4	Selecting and preparing consumable for cutting uppers used in footwear manufacturing
Specific Outcome 8.5	Applying work instructions to cut a range of upper components

9. Title: Undertake closing processes to join components in footwear

- | | |
|----------------------|---|
| Specific Outcome 9.1 | Joining materials to produce closed uppers using a range of machinery and equipment |
| Specific Outcome 9.2 | Performing operations by hand associated with closed upper |
| Specific Outcome 9.3 | Identifying and selecting appropriate machines and equipment for joining materials to produce closed uppers |
| Specific Outcome 9.4 | Selecting and preparing consumables for joining materials to produce closed uppers |
| Specific Outcome 9.5 | Applying work instructions to join materials to produce closed uppers |
| Specific Outcome 9.6 | Placing patterns to a process to produce closed uppers |

10. Title: Undertake finishing and dressing processes in footwear

- | | |
|-----------------------|--|
| Specific Outcome 10.1 | Identifying and selecting appropriate machines and equipment for finishing and dressing footwear |
| Specific Outcome 10.2 | Finishing shoes using a range of machinery and equipment |
| Specific Outcome 10.3 | Finishing shoes by hand |
| Specific Outcome 10.4 | Selecting and preparing consumables for finishing and dressing footwear |
| Specific Outcome 10.5 | Applying work instructions to finish and dress footwear |

11. Title: Undertake making processes to assemble and attach uppers and bottoms in footwear

- | | |
|-----------------------|--|
| Specific Outcome 11.1 | Assembling and attaching materials to produce footwear using a range of machinery and equipment |
| Specific Outcome 11.2 | Assembling and attaching components to produce footwear by hand |
| Specific Outcome 11.3 | Identifying and selecting appropriate machines and equipment for assembling and attaching components to produce footwear |
| Specific Outcome 11.4 | Selecting and preparing consumables for assembling and attaching components to produce footwear |
| Specific Outcome 11.5 | Applying work instructions to assemble and attach components to produce footwear |

12. Title: Undertake pattern cutting and design processes in footwear

- | | |
|-----------------------|--|
| Specific Outcome 12.1 | Identifying and selecting appropriate machines and equipment for pattern cutting |
| Specific Outcome 12.2 | Cutting patterns for shoes using a range of machine and equipment |
| Specific Outcome 12.3 | Moving sample pieces and patterns to points in a process |
| Specific Outcome 12.4 | Selecting and preparing consumables for cutting patterns for footwear |
| Specific Outcome 12.5 | Applying work instructions to cut a range of patterns |

NATIONAL CERTIFICATE IN FOOTWEAR TECHNOLOGY

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Footwear Manufacturing
NQF Level	:4
Credits	:120
Purpose	:Learners assessed competent against these standards will be able to interpret and analyse footwear designs through producing mean forms, developing and producing sample patterns, developing a standard from a mean formed and drawing shoe profiles from a pattern. Learners will also be able to interpret conversion charts.

National Certificate in Footwear Technology (NQF 4)
Qualification Matrix

	Level 4		Total
Fundamentals	Communication Mathematics	20 16	36
Core	1. Interpret and analyse designs for footwear 2. Implement quality systems for footwear manufacturing 3. Assess and improve maintenance processes in footwear manufacturing 4. Secure and protect materials 5. Store products and improve safety, health and environmental issues in footwear	8 10 8 10 6	42
Elective	1. Implement closing techniques to join cut components to produce uppers for footwear 2. Implement clicking techniques to cut upper components of the footwear 3. Implement techniques to make footwear through assembling and attaching uppers and bottoms 4. Implement techniques to produce bottom stock in footwear 5. Implement techniques to finish and dress footwear 6. Implement pattern cutting techniques to produce patterns and designs for footwear	42 42 42 42 42 42	42
TOTAL			120

UNIT STANDARDS FOR FOOTWEAR TECHNOLOGY

Unit Standards at NQF Level 4

1. Title: Interpret and analyse designs for footwear
2. Title: Assess and improve maintenance processes in footwear manufacturing
3. Title: Secure and protect materials
4. Title: Implement quality systems for footwear manufacturing
5. Title: Store products and improve safety, health and environmental issues in footwear
6. Title: Implement techniques to produce bottom stock in footwear
7. Title: Implement clicking techniques to cut upper components of footwear
8. Title: Implement closing techniques to join cut components to produce uppers for footwear
9. Title: Implement techniques to finish and dress footwear
10. Title: Implement techniques to make footwear through assembling and attaching uppers and bottoms
11. Title: Implement pattern cutting techniques to produce patterns and designs for footwear

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 4

1. Title: Interpret and analyse designs for footwear

- | | |
|----------------------|--|
| Specific Outcome 1.1 | Producing a mean forme |
| Specific Outcome 1.2 | Developing and producing sample patterns |
| Specific Outcome 1.3 | Developing a standard from a mean forme |
| Specific Outcome 1.4 | Drawing shoe profiles from a pattern |
| Specific Outcome 1.5 | Interpreting conversion charts |

2. Title: Assess and improve maintenance processes in footwear manufacturing

- | | |
|----------------------|---|
| Specific Outcome 2.1 | Removing and replacing parts using procedures and techniques according to specifications |
| Specific Outcome 2.2 | Inspecting parts to determine extent of wear and taking appropriate action |
| Specific Outcome 2.3 | Setting and adjusting machines to optimise performance size, style, material and components |

3. Title: Secure and protect materials

- | | |
|----------------------|--|
| Specific Outcome 3.1 | Determining physical characteristics of leather and synthetics to check suitability to purpose |
| Specific Outcome 3.2 | Measuring materials to determine efficiencies |
| Specific Outcome 3.3 | Determining quantities and needs of materials to continue production |
| Specific Outcome 3.4 | Securing materials to prevent shortages |
| Specific Outcome 3.5 | Conducting basic material tests to determine quality standards |

4. Title: Implement quality systems for footwear manufacturing

- | | |
|----------------------|--|
| Specific Outcome 4.1 | Implementing quality systems to conform to specifications and operating procedures |
| Specific Outcome 4.2 | Correcting quality issues to avoid re-occurrence |
| Specific Outcome 4.3 | Auditing processes and products to check effectiveness of action |
| Specific Outcome 4.4 | Reporting on quality trends to effect improvements |

5. Title: Store products and improve safety, health and environmental issues in footwear

- | | |
|----------------------|--|
| Specific Outcome 5.1 | Storing goods, equipment, tools etc ensuring good housekeeping practices |
| Specific Outcome 5.2 | Demarcating designated areas to layout in terms of regulations |
| Specific Outcome 5.3 | Inspecting safety equipment to keep in working condition |
| Specific Outcome 5.4 | Assessing environmental issues to protect self, business and community |

6. Title: Implement techniques to produce bottom stock in footwear

- | | |
|----------------------|---|
| Specific Outcome 6.1 | Coaching others to perform tasks relating to the production of bottom stock |
| Specific Outcome 6.2 | Setting and adjusting a range of machines and equipment |
| Specific Outcome 6.3 | Organising workflow of processes to produce bottom stock |

7. Title: Implement clicking techniques to cut upper components of footwear

- | | |
|----------------------|---|
| Specific Outcome 7.1 | Cutting upper components using a range of advanced machinery and equipment |
| Specific Outcome 7.2 | Applying patterns to processes to produce cut upper components |
| Specific Outcome 7.3 | Coaching others to perform tasks relating to clicking processes |
| Specific Outcome 7.4 | Organising the workflow of a process to cut materials to produce upper components |

8. Title: Implement closing techniques to join cut components to produce uppers for footwear

- | | |
|----------------------|---|
| Specific Outcome 8.1 | Joining cut components using a range of machinery and equipment to produce closed uppers |
| Specific Outcome 8.2 | Coaching others to perform tasks relating to the joining of cut components to produce closed uppers |
| Specific Outcome 8.3 | Setting and adjusting a range of machines and equipment |
| Specific Outcome 8.4 | Organising the workflow of a process to join cut components to produce closed uppers |

9. Title: Implement techniques to finish and dress footwear

- Specific Outcome 9.1 Finishing and dressing footwear using machinery and equipment
- Specific Outcome 9.2 Setting and adjusting a range of finishing machines
- Specific Outcome 9.3 Coaching others to perform tasks relating to finishing and dressing of footwear uppers and bottoms
- Specific Outcome 9.4 Organising the workflow of a process to finish footwear

10. Title: Implement techniques to make footwear through assembling and attaching uppers and bottoms

- Specific Outcome 10.1 Assembling and attaching uppers and bottoms using a range of advanced machines and equipment to produce unfinished footwear
- Specific Outcome 10.2 Setting and adjusting a range of machines and equipment
- Specific Outcome 10.3 Coaching others to perform tasks relating to the assembling and attaching of uppers and bottoms to produce unfinished footwear
- Specific Outcome 10.4 Organising the workflow of a process to construct unfinished footwear

11. Title: Implement pattern cutting techniques to produce patterns and designs for footwear

- Specific Outcome 11.1 Producing patterns and designs for footwear using a range of advanced machinery and equipment
- Specific Outcome 11.2 Coaching others to perform tasks relating to pattern cutting processes
- Specific Outcome 11.3 Setting and adjusting a range of pattern cutting machines
- Specific Outcome 11.4 Organising the workflow of a process to cut patterns to produce footwear
- Specific Outcome 11.5 Writing specifications for ranges of footwear
- Specific Outcome 11.6 Grading patterns in sizes
- Specific Outcome 11.7 Dissecting patterns to produce pattern parts for Specific footwear

NATIONAL DIPLOMA IN FOOTWEAR TECHNOLOGY

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Footwear Manufacturing
NQF Level	:5
Credits	:283
Purpose	:Learners assessed competent against these standards will be able to research and modify designs for footwear processes through developing new ranges of footwear, conducting research, generating specifications and conducting fitting tests. Learners involved in any elective area will use this standard.

National Diploma in Footwear Technology (NQF 5)
Qualification Matrix

	Level 5		Total
Fundamentals	1.Communication studies and language 2.Physical, mathematical, computer and life sciences	20 16	36
Core	1.Research and modify designs for footwear 2.Analyse and experiment engineering processes in footwear manufacturing 3.Develop and enhance quality systems in footwear manufacturing 4.Source and substitute footwear materials to optimise processes	25 25 24 26	100
Elective	1.Enhance and develop techniques to assemble cut components to produce closed uppers and 2.Enhance and develop techniques to cut upper components or 3.Enhance and develop techniques to cut patterns and designs for footwear ranges 4.Enhance and develop techniques to assemble closed uppers and bottom stock to produce unfinished shoes or 5.Enhance and develop techniques to produce bottom stock or 6.Enhance and develop techniques to finish footwear	55 55 110 37 37 37	147
TOTAL			283

UNIT STANDARDS FOR FOOTWEAR TECHNOLOGY

1. Title: Research and modify designs for footwear
2. Title: Analyse and experiment engineering processes in footwear manufacturing
3. Title: Source and substitute footwear materials to optimise processes
4. Title: Develop and enhance quality systems in footwear manufacturing
5. Title: Enhance and develop techniques to produce bottom stock
6. Title: Enhance and develop techniques to cut upper components
7. Title: Enhance and develop techniques to assemble cut components to produce closed uppers
8. Title: Enhance and develop techniques to finish footwear
9. Title: Enhance and develop techniques to assemble closed uppers and bottom stock to produce unfinished shoes
10. Title: Enhance and develop techniques to cut patterns and designs for footwear ranges

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 5

1. Title: Research and modify designs for footwear

- | | |
|----------------------|--|
| Specific Outcome 1.1 | Developing new ranges of footwear |
| Specific Outcome 1.2 | Conducting research to determine market needs and fashion trends |
| Specific Outcome 1.3 | Generating specifications for new styles and ranges |
| Specific Outcome 1.4 | Conducting a fitting test to evaluate the last |

2. Title: Analyse and experiment engineering processes in footwear manufacturing

- | | |
|----------------------|---|
| Specific Outcome 2.1 | Engineering new and replacement parts to enhance machine capacity |
| Specific Outcome 2.2 | Experimenting with alternate methods to improve cost efficiencies |
| Specific Outcome 2.3 | Testing methods to improve machine optimisation |
| Specific Outcome 2.4 | Analysing down time to determine cause and extent |

3. Title: Source and substitute footwear materials to optimise processes

- | | |
|----------------------|---|
| Specific Outcome 3.1 | Sourcing materials from international and local suppliers |
| Specific Outcome 3.2 | Selecting materials appropriate to design ranges |
| Specific Outcome 3.3 | Assessing suitability in terms of price, quality and delivery |
| Specific Outcome 3.4 | Substituting materials without prejudicing quality and marketability and ensuring flexibility |

4. Title: Develop and enhance quality systems in footwear manufacturing

- | | |
|----------------------|---|
| Specific Outcome 4.1 | Analysing quality information to adjust designs, systems or materials |
| Specific Outcome 4.2 | Interpreting test results of footwear products and components |

Specific Outcome 4.3 Developing a quality system or section of a quality system

Specific Outcome 4.4 Setting quality standards

5. Title: Enhance and develop techniques to produce bottom stock

Specific Outcome 5.1 Monitoring complete processes in a bottom stock department and controlling the inputs, processes and outputs

Specific Outcome 5.2 Costing a process to produce bottom stock

Specific Outcome 5.3 Producing a layout of a bottoms department to include people, machine, lighting, ventilation, material storage and sequencing

Specific Outcome 5.4 Enhancing and introducing a methodology to improve processes to cut raw materials to produce bottom stock

6. Title: Enhance and develop techniques to cut upper components

Specific Outcome 6.1 Monitoring complete processes in a clicking department and controlling the inputs, processes and outputs

Specific Outcome 6.2 Costing a process to produce cut components of uppers

Specific Outcome 6.3 Producing a layout of a clicking department to include people, machine, lighting, ventilation, material storage and sequencing

Specific Outcome 6.4 Enhancing and introducing a methodology to improve processes to cut raw materials for uppers

7. Title: Enhance and develop techniques to assemble cut components to produce closed uppers

Specific Outcome 7.1 Monitoring complete processes in a closing department and controlling the inputs, processes and outputs

Specific Outcome 7.2 Costing out a process from a point of cut component input to produce closed uppers

Specific Outcome 7.3 Producing a layout of a closing department to include people, machine, lighting, ventilation, material storage and sequencing

Specific Outcome 7.4 Enhancing and introducing a methodology to improve processes to join materials to produce closed uppers

8. Title: Enhance and develop techniques to finish footwear

Specific Outcome 8.1 Monitoring complete processes in a finishing and shoe room department and controlling the inputs, processes and outputs

Specific Outcome 8.2 Costing out a process from a point of unfinished footwear to boxed footwear

Specific Outcome 8.3 Producing a layout of a finishing and dressing department to include people, machine, lighting, ventilation, material storage and sequencing

Specific Outcome 8.4 Enhancing and introducing a methodology to improve processes to finish footwear to point of despatch

9. Title: Enhance and develop techniques to assemble closed uppers and bottom stock to produce unfinished shoes

- | | |
|----------------------|---|
| Specific Outcome 9.1 | Monitoring complete processes in a making department and controlling the inputs, processes and outputs |
| Specific Outcome 9.2 | Costing out a process from a point of closed uppers and bottom stock to produce a range of unfinished shoes |
| Specific Outcome 9.3 | Producing a layout of a making department to include people, machine, lighting, ventilation, material storage and sequencing |
| Specific Outcome 9.4 | Enhancing and introducing a methodology to improve processes to construct shoes by assembling and attaching uppers to bottoms |

10. Title: Enhance and develop techniques to cut patterns and designs for footwear ranges

- | | |
|-----------------------|---|
| Specific Outcome 10.1 | Monitoring complete processes in a pattern cutting department and controlling the inputs, processes and outputs |
| Specific Outcome 10.2 | Costing out a process from a point of an idea, concept and description to produce a cut pattern for footwear |
| Specific Outcome 10.3 | Producing a layout of a pattern cutting department to include people, machine, lighting, ventilation, material storage and sequencing |
| Specific Outcome 10.4 | Enhancing and introducing a methodology to improve processes to cut patterns and designs for ranges of footwear |
| Specific Outcome 10.5 | Developing ranges of footwear through trailing, prototypes, lasts developed, components developed |

NATIONAL CERTIFICATE IN LEATHER PROCESSES

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Leather Manufacturing
NQF Level	:2
Credits	:120
Purpose	:Learners assessed component against this standards will be able to sketch drawings and measure components of footwear in the footwear industry in South Africa through determining and drawing the centre line on the last and measuring basic dimensions of feet and lasts. Learners will also be able to identify sizes, styles and ranges of footwear as well as identify parts of a shoe and describe their relationship with each other.

National Certificate in Leather Processes (NQF 2)
Qualification Matrix

	Level 2		Total
Fundamentals	Communication Mathematics	20 16	36
Core	1.Administer the leather manufacturing process 2.Apply and monitor fundamental controls relevant to leather manufacturing 3.Maintain machines and equipment used in leather manufacturing processes 4.Handle materials used in leather manufacturing processes 5.Apply quality procedures in the manufacture of leather 6.Apply and monitor safety and environmental standards during the leather manufacturing process	9 14 9 10 12 6	60
Elective	1.Apply curing practices in leather or 2.Apply cutting practices in leather or 3.Apply finishing practices in leather or 4.Apply retanning practices in leather or 5.Apply tanning practices in leather	24 24 24 24 24	24
TOTAL			120

UNIT STANDARDS FOR FOOTWEAR PROCESSES

Unit Standards at NQF Level 2

1. Title: Sketch drawings and measure components footwear
2. Title: Demonstrate understanding of the footwear industry, its structure, stakeholders, terms, concepts and processes.
3. Title: Maintain footwear equipment and machines
4. Title: Identify and handle materials in footwear
5. Title: Monitor quality in footwear manufacturing
6. Title: Comply with health, safety and environmental issues in footwear
7. Title: Undertake processes to cut bottom stock for footwear
8. Title: Undertake clicking processes to cut upper components of footwear
9. Title: Undertake closing processes to join components in footwear
10. Title: Undertake finishing and dressing processes in footwear
11. Title: Undertake making processes to assemble and attach uppers and bottoms in footwear
12. Title: Undertake pattern cutting and design processes in footwear

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES OF NQF LEVEL 2

1. Title: Sketch drawings and measure components footwear

- | | |
|----------------------|---|
| Specific Outcome 1.1 | Determining and drawing the centre line on the last |
| Specific Outcome 1.2 | Measuring basic dimensions of feet and lasts |
| Specific Outcome 1.3 | Identifying sizes, styles and ranges of footwear |
| Specific Outcome 1.4 | Identifying the parts of a shoe and their relationships with each other |

2. Title: Demonstrate understanding of the footwear industry, its structure, stakeholders, terms, concepts and processes

- | | |
|----------------------|--|
| Specific Outcome 2.1 | Relating processes and support functions in footwear |
| Specific Outcome 2.2 | Identifying stakeholders (local and international) in the footwear industry |
| Specific Outcome 2.3 | Defining functions, general terms and concepts of various structures in footwear manufacturing |

3. Title: Maintain footwear equipment and machines

- | | |
|-----------------------|---|
| Specific Outcome 3.1. | Lubricating footwear machines |
| Specific Outcome 3.2 | Observing processes to determine defect/causes to prevent down time |
| Specific Outcome 3.3 | Interacting with operators, engineers and support |
| Specific Outcome 3.4 | Cleaning and maintaining machines and equipment |

4. Title: Identify and handle materials in footwear

- | | |
|----------------------|--|
| Specific Outcome 4.1 | Identifying a range of shoe components |
| Specific Outcome 4.2 | Verifying quantities to determine overs and unders |
| Specific Outcome 4.3 | Handling materials within processes |
| Specific Outcome 4.4 | Interpreting material specifications |

5. Title: Monitor quality in footwear manufacturing

- | | |
|----------------------|---|
| Specific Outcome 5.1 | Inspecting products to determine adherence to specifications |
| Specific Outcome 5.2 | Monitoring settings, actions and improvements to maximise quality |
| Specific Outcome 5.3 | Reporting on quality issues to enable actions to be taken |
| Specific Outcome 5.4 | Recording defects, returns and complaints for analysis |

6. Title: Comply with health, safety and environmental issues in footwear

- | | |
|----------------------|---|
| Specific Outcome 6.1 | Preventing accidents to ensure safe working environment |
| Specific Outcome 6.2 | Following emergency procedures to ensure order |
| Specific Outcome 6.3 | Labelling hazardous substances to meet procedures |
| Specific Outcome 6.4 | Protecting self, machine and environment to prevent accidents |

7. Title: Undertake processes to cut bottom stock for footwear

- | | |
|----------------------|---|
| Specific Outcome 7.1 | Identifying and selecting appropriate machines and equipment for cutting of bottom stock used in footwear |
| Specific Outcome 7.2 | Cutting bottom components using a range of machinery and equipment |
| Specific Outcome 7.3 | Cutting bottom components by hand |
| Specific Outcome 7.4 | Selecting and preparing consumable for cutting bottom stock used in footwear manufacturing |
| Specific Outcome 7.5 | Applying work instructions to cut a range of bottom components |
| Specific Outcome 7.6 | Placing patterns to process to produce bottom stock |

8. Title: Undertake clicking processes to cut upper components of footwear

- | | |
|----------------------|---|
| Specific Outcome 8.1 | Identifying and selecting appropriate machines and equipment for cutting of uppers used in footwear |
| Specific Outcome 8.2 | Cutting upper components using a range of machinery and equipment |
| Specific Outcome 8.3 | Cutting upper components by hand |

- Specific Outcome 8.4 Selecting and preparing consumable for cutting uppers used in footwear manufacturing
- Specific Outcome 8.5 Applying work instructions to cut a range of upper components

9. Title: Undertake closing processes to join components in footwear

- Specific Outcome 9.1 Joining materials to produce closed uppers using a range of machinery and equipment
- Specific Outcome 9.2 Performing operations by hand associated with closed upper
- Specific Outcome 9.3 Identifying and selecting appropriate machines and equipment for joining materials to produce closed uppers
- Specific Outcome 9.4 Selecting and preparing consumables for joining materials to produce closed uppers
- Specific Outcome 9.5 Applying work instructions to join materials to produce closed uppers
- Specific Outcome 9.6 Placing patterns to a process to produce closed uppers

10. Title: Undertake finishing and dressing processes in footwear

- Specific Outcome 10.1 Identifying and selecting appropriate machines and equipment for finishing and dressing footwear
- Specific Outcome 10.2 Finishing shoes using a range of machinery and equipment
- Specific Outcome 10.3 Finishing shoes by hand
- Specific Outcome 10.4 Selecting and preparing consumables for finishing and dressing footwear
- Specific Outcome 10.5 Applying work instructions to finish and dress footwear

11. Title: Undertake making processes to assemble and attach uppers and bottoms in footwear

- Specific Outcome 11.1 Assembling and attaching materials to produce footwear using a range of machinery and equipment
- Specific Outcome 11.2 Assembling and attaching components to produce footwear by hand
- Specific Outcome 11.3 Identifying and selecting appropriate machines and equipment for assembling and attaching components to produce footwear
- Specific Outcome 11.4 Selecting and preparing consumables for assembling and attaching components to produce footwear
- Specific Outcome 11.5 Applying work instructions to assemble and attach components to produce footwear

12. Title: Undertake pattern cutting and design processes in footwear

Specific Outcome 12.1	Identifying and selecting appropriate machines and equipment for pattern cutting
Specific Outcome 12.2	Cutting patterns for shoes using a range of machinery and equipment
Specific Outcome 12.3	Moving sample pieces and patterns to points in a process
Specific Outcome 12.4	Selecting and preparing consumables for cutting patterns for footwear
Specific Outcome 12.5	Applying work instructions to cut a range of patterns for footwear

NATIONAL HIGHER CERTIFICATE IN LEATHER PROCESSES

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Leather Manufacturing Processes
NQF Level	:4
Credits	:120
Purpose	: Learners who demonstrate competence against these standards will be able to monitor administrative practices and accounts for leather through comparing products and checking accuracy against specifications, planning production schedules, implementing and interpreting procedures and attending meetings.

**National Higher Certificate in Leather Processes (NQF 4)
Qualification Matrix**

	Level 4		Total
Fundamentals	Communication Mathematics	20 16	36
Core	1. Monitor administrative practices and accounts for leather 2. Monitor and control leather manufacturing procedures to improve processes 3. Adjust and modify machines and equipment used in the manufacturing of leather 4. Monitor and control material flow through the leather manufacturing process 5. Monitor and record quality in leather manufacturing processes 6. Monitor and control health, safety and environmental practices during the leather manufacturing process	8 12 3 9 10 5	47
Elective	1. Control and implement curing processes in leather or 2. Control and implement cutting or 3. Control and implement finishing processes in leather or 4. Control and implement retanning processes in leather processes in leather or 5. Control and implement tanning processes in leather	37 37 37 37 37	37
TOTAL			120

UNIT STANDARDS FOR LEATHER PROCESSES

Unit Standards at NQF Level 4

1. Title: Monitor administrative practices and accounts for leather
2. Title: Monitor and control leather manufacturing procedures to improve processes
3. Title: Adjust and modify machines and equipment used in the manufacturing of leather
4. Title: Monitor and control material flow through the leather manufacturing process
5. Title: Monitor and record quality in leather manufacturing processes
6. Title: Monitor and control health, safety and environmental practices during the leather manufacturing process
7. Title: Control and implement curing processes in leather
8. Title: Control and implement cutting processes in leather
9. Title: Control and implement finishing processes in leather
10. Title: Control and implement retanning processes in leather
11. Title: Control and implement tanning processes in leather

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 4

1. Title: Monitor administrative practices and accounts for leather

- | | |
|----------------------|--|
| Specific Outcome 1.1 | Comparing product against specifications |
| Specific Outcome 1.2 | Checking accuracy against specifications |
| Specific Outcome 1.3 | Planning production schedules |
| Specific Outcome 1.4 | Implementing procedures |
| Specific Outcome 1.5 | Interpreting procedures |
| Specific Outcome 1.6 | Attending meetings |

2. Title: Monitor and control leather manufacturing procedures to improve processes

- | | |
|----------------------|--|
| Specific Outcome 2.1 | Monitoring and controlling functions of chemicals in process control |
| Specific Outcome 2.2 | Monitoring and controlling process parameters including pH, temperatures, times, volumes, weights and totals |
| Specific Outcome 2.3 | Carrying out process trials |
| Specific Outcome 2.4 | Understanding the effects of monitoring and controlling non-conformance on resultant leather and end use |
| Specific Outcome 2.5 | Planning production flow |

3. Title: Adjust and modify machines and equipment used in the manufacturing of leather

- | | |
|----------------------|---------------------------|
| Specific Outcome 3.1 | Setting machines |
| Specific Outcome 3.2 | Checking machine settings |

4. Title: Monitor and control material flow through the leather manufacturing process

Specific Outcome 4.1	Determining quantities for production
Specific Outcome 4.2	Sourcing materials
Specific Outcome 4.3	Characterising materials

5. Title: Monitor and record quality in leather manufacturing processes

Specific Outcome 5.1	Inspecting and testing products
Specific Outcome 5.2	Grading materials
Specific Outcome 5.3	Monitoring quality systems
Specific Outcome 5.4	Conducting quality audits

6. Title: Monitor and control health, safety and environmental practices during the leather manufacturing process

Specific Outcome 6.1	Checking serviceability of safety equipment and machines
Specific Outcome 6.2	Selecting applicable equipment
Specific Outcome 6.3	Identifying and responding to different areas and situations
Specific Outcome 6.4	Monitoring safety
Specific Outcome 6.5	Reacting to safety reports

7. Title: Control and implement curing processes in leather

Specific Outcome 7.1	Monitoring and executing curing procedures
Specific Outcome 7.2	Assessing product state on completion

8. Title: Control and implement cutting processes in leather

Specific Outcome 8.1	Planning work schedules
Specific Outcome 8.2	Making decisions
Specific Outcome 8.3	Recording and reporting cutting processes
Specific Outcome 8.4	Monitoring cutting results
Specific Outcome 8.5	Adjusting machine heights (where applicable)
Specific Outcome 8.6	Optimising cutting areas

9. Title: Control and implement finishing processes in leather

Specific Outcome 9.1	Mixing and matching colours and finishes
Specific Outcome 9.2	Implementing and controlling practical finishing methods including spraying by machine, hand etc
Specific Outcome 9.3	Implementing and monitoring finishing processes as per directions and requirements
Specific Outcome 9.4	Implementing and controlling finishing technology including the effects of resins, moisture, temperature etc
Specific Outcome 9.5	Implementing and monitoring traceability of production batches

10. Title: Control and implement retanning processes in leather

- Specific Outcome 10.1 Monitoring and executing retanning procedures
- Specific Outcome 10.2 Controlling change over procedures
- Specific Outcome 10.3 Assessing product state at various points

11. Title: Control and implement tanning processes in leather

- Specific Outcome 11.1 Monitoring and implementing tanning procedures
- Specific Outcome 11.2 Controlling change over procedures
- Specific Outcome 11.3 Assessing product state at various points

NATIONAL DIPLOMA IN LEATHER TECHNOLOGY

Field	:Engineering, Manufacturing and Technology
Sub-Field	:Leather Manufacturing Processes
NQF Level	:5
Credits	:240
Purpose	:The learners who demonstrate competence against these standards will have an understanding of the market and customer requirements.

**National Diploma in Leather Technology (NQF 5)
Qualification Matrix**

	Level 5		Total
Fundamentals	Communication Mathematics	20 16	36
Core	1.Check, clean, report, adjust and replace basic parts to machinery and equipment in a given work area 2.Handle, select and store materials used in clothing manufacturing processes 3.Compare specifications to products and record and report on defects 4.Take care of self and others and report on risks and incidents in clothing manufacturing 5.Apply production standards, receiving, recording and completing work in clothing manufacture	7 7 11 6 14	45
Elective	1.Prepare cutting processes by picking, laying, sorting and fusing 2.Make patterns 3.Press, pack and prepare garments 4.Join component parts	40 40 40 40	160
TOTAL			241

UNIT STANDARDS FOR LEATHER PROCESSES**Unit Standards at NQF Level 5**

1. Title: Understand the Leather Market and Customer requirements
2. Title: Research and develop new techniques appropriate to leather manufacturing processes
3. Title: Plan, forecast and budget leather material usage and future requirements
4. Title: Enhance quality practices in the leather manufacturing process
5. Title: Research and develop curing processes in leather
6. Title: Research and develop cutting processes in leather
7. Title: Research and develop finishing processes in leather
8. Title: Research and develop retanning processes in leather
9. Title: Research and develop tanning processes in leather

UNIT STANDARDS TITLES AND SPECIFIC OUTCOMES NQF LEVEL 5

1. Title: Understand the Leather market and Customer Requirements

Specific Outcome 1.1	Planning and conducting audits
Specific Outcome 1.2	Analysing information
Specific Outcome 1.3	Produce feasibility studies
Specific Outcome 1.4	Recommend participating in meetings

2. Title: Research and develop new techniques appropriate to leather manufacturing processes

Specific Outcome 2.1	Researching and developing leather making processes from curing to cutting
Specific Outcome 2.2	Researching and developing new techniques
Specific Outcome 2.3	Researching and improving yield and throughput studies
Specific Outcome 2.4	Researching and developing quality related issues to process control
Specific Outcome 2.5	Researching and developing environmental impact of leather making processes

3. Title: Plan, forecast and budget leather material usage and future requirements

Specific Outcome 3.1	Costing materials
Specific Outcome 3.2	Optimising material flow
Specific Outcome 3.3	Forecasting usage

4. Title: Enhance quality practices in the leather manufacturing process

- | | |
|----------------------|---|
| Specific Outcome 4.1 | Adjusting conditions and parameters and taking appropriate corrective action |
| Specific Outcome 4.2 | Developing quality standards to meet customer specifications and requirements |
| Specific Outcome 4.3 | Implementing quality systems |
| Specific Outcome 4.4 | Assessing quality audits |

5. Title: Research and develop curing processes in leather

- | | |
|----------------------|---|
| Specific Outcome 5.1 | Modifying existing processes |
| Specific Outcome 5.2 | Developing and implementing clean technology curing |
| Specific Outcome 5.3 | Conducting lab tests and evaluating the results |

6. Title: Research and develop cutting processes in leather

- | | |
|----------------------|--|
| Specific Outcome 6.1 | Planning new technology |
| Specific Outcome 6.2 | Investigating and developing new processes |
| Specific Outcome 6.3 | Researching and analysing new products |
| Specific Outcome 6.4 | Researching resources |

7. Title: Research and develop finishing processes in leather

- | | |
|----------------------|---|
| Specific Outcome 7.1 | Researching and developing new and improved finishing processes |
| Specific Outcome 7.2 | Planning and controlling finishing procedures |
| Specific Outcome 7.3 | Researching and developing advanced and specific finishing methods and products |
| Specific Outcome 7.4 | Implementing corrective actions for finishing processes |
| Specific Outcome 7.5 | Researching and developing machinery performance awareness |

8. Title: Research and develop retanning processes in leather

- | | |
|----------------------|--|
| Specific Outcome 8.1 | Modifying existing processes |
| Specific Outcome 8.2 | Developing and implementing clean technology processes |
| Specific Outcome 8.3 | Conducting trials on products, processes and materials |
| Specific Outcome 8.4 | Conducting lab tests and evaluating the results |

9. Title: Research and develop tanning processes in leather

- | | |
|----------------------|--|
| Specific Outcome 9.1 | Modifying existing processes |
| Specific Outcome 9.2 | Developing and implementing clean technology processes |
| Specific Outcome 9.3 | Conducting trials on products, processes and materials |
| Specific Outcome 9.4 | Conducting lab tests and evaluating the results |

No. 291

28 March 2001

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

Tourism Guiding

Registered by NSB 11, Services, publishes the following unit standards-based qualifications for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purposes of the qualifications, and the titles and specific outcomes of the unit standards upon which qualifications are based. The full qualifications and unit standards can be accessed via the SAQA web-site at www.saqa.co.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar street, Brooklyn, Pretoria.

Comment on the qualifications and unit standards should reach SAQA at the address ***below and no later than Friday 17 April 2001***. All correspondence should be marked **Standards Setting – SGB for Tourism Guiding** and addressed to

The Director: Standard Setting and Development
SAQA

Attention: Mrs S. Vasuthevan

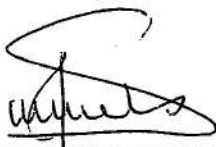
Postnet Suite 248

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or faxed to 012 – 346 5812



PP **SAMUEL B.A. ISAACS**
EXECUTIVE OFFICER

NATIONAL CERTIFICATE IN TOURISM: GUIDING**Field** : Services**Sub-field** : Tourism Guiding**NQF level** : 2**Credits** : 134**Purpose of the Qualification:**

A qualifying learner who has achieved this qualification will be able to create and conduct a short-guided experience, based on local natural and cultural resources, that entertains and informs visitors. This qualification will enable the learner to be a competent guide operating within a local area.

A qualifying learner will provide quality experiences to tourists and thus strengthen the profession and tourism in general.

In addition they will be positioned to further their learning, practice and career within the guiding sector, through, among others, the support and teamwork of members of the guiding sector - either at further levels or in other areas of practice. Expansion into other sectors of tourism is also possible.

Qualification Matrix

	Level 2		Level 4		Total
Fundamentals	Operate a PC Do Basic Research Understand Social Issues Operate in a Team Apply Basic Written & Oral communication skills Use numeracy for self organisation <i>any other numeracy unit standards on the NQF at Level One or above</i> Understand and apply personal values & ethics Organise Oneself in the Workplace Work with people who have special needs	6 4 4 4 10 2 14 4 3 4			55
Core	Contribute to sustainable tourism in South Africa Understand & interpret our natural & cultural heritage Maintain occupational health & safety Demonstrate an understanding of HIV/AIDS and its implications Create a Guided experience for customers	5 5 2 4 20	Introduce South Africa to Tourists Operate in a business Oversee Arrival & departure of customers Care for customers Operate within the national & international legal framework	7 4 3 3 5	58
Elective	Conduct a Guided Nature Experience in a limited geographical area	21			21
Total		112		22	134

UNIT STANDARDS FOR TOURISM GUIDING**Unit Standards at NQF Level 2**

1. Title : Operate a Personal Computer System (I.D. 7547)
2. Title : Do basic research
3. Title : Understand Social Issues
4. Title : Operate in a Team
5. Title : Apply Basic Written and Oral Communication Skills
6. Title : Use numeracy for self-organisation
7. Title : Understand and Apply Personal Values and Ethics
8. Title : Organise oneself in the Workplace
9. Title : Work with people who have special needs
10. Title : Contribute to sustainable Tourism in South Africa
11. Title : Understand and Interpret our Natural and Cultural Heritage
12. Title : Maintain Occupational Health and Safety
13. Title : Demonstrate an understanding of HIV/AIDS and its implications
14. Title : Create a Guided experience for customers
15. Title : Conduct a guided nature experience in a limited Geographical area
16. Title : Create a guided Cultural experience in a limited Geographical area
17. Title : Track animals and identify spoor using easily recognisable spoor

Unit standards at NQF Level 3

1. Title : Conduct a limited guided nature experience

Unit standards at NQF Level 4

1. Title : Introduce South Africa to Tourists
2. Title : Operate in a business
3. Title : Oversee arrival and departure of customers
4. Title : Care for customers
5. Title : Operate within the National and International Legal Framework
6. Title : Conduct a guided nature experience
7. Title : Conduct a guided cultural experience
8. Title : Track animals and identify spoor using moderately difficult spoor

Unit standards at NQF Level 6

1. Title : View potentially dangerous animals
2. Title : Conduct an advanced guided nature experience
3. Title : Track animals and identify spoor using difficult spoor

Unit standards titles and specific outcomes at NQF level 2

1. Title : Operate a Personal Computer System

Registered Unit Standard (I.D. 7547)

2. Title : Do basic research

Specific Outcome 1: Plan a research project.

(Range: A focus on mapping the flow of work through which a product or service is delivered)

Specific Outcome 2: Collate data using a simple research technique.
(Range: One simple research technique such as interviews)

Specific Outcome 3: Analyse data using a simple research technique.
(Range: One simple data technique such as a flow chart)

Specific Outcome 4: Prepare and present a brief report on the findings.
(Range: A brief five-minute oral presentation with slides is expected)

Specific Outcome 5: Evaluate own performance in the research project.
(Range: Evaluation is restricted to reflections on own role in each phase)

3. Title : Understand Social Issues

Specific Outcome 1: Select a sociological issue for consideration and justify the choice with reference to a particular workplace.
(Range: Sociological features could include any of the categories used in the Employment Equity Act, the Bill of Rights or drawn from social theory. Justification must include at least an argument as to the relevance of the issue to the workplace chosen)

Specific Outcome 2: Describe a workplace in terms of any key sociological feature.

Specific Outcome 3: Describe the constitutional, legislative or policy issues impacting on the sociological feature.
(Range: Description must include at least an accurate summary of the relevant constitutional, legislative and/or policy requirements)

Specific Outcome 4: Explain the impact on individuals and groups in the workplace.
(Range: Explanation must include at least issues of individual and group perception)

Specific Outcome 5: Reflect on the implications for themselves.

4. Title : Operate in a Team

Specific Outcome 1: Identify the structure and purpose of a particular team in the work place and in the learning environment
(Range: Outlining team organisation, working relationships and goals. Quality circles, production line teams or training forums are examples of teams in the workplace. Study groups are an example of teams in the learning environment)

Specific Outcome 2: Describe and carry out the roles and responsibilities required to work in a team in the workplace and learning environment.

Specific Outcome 3: Identify factors affecting a team within workplace and learning environment and explain affect

Specific Outcome 4: Describe the workplace and learning environment organisation

and identify its influence on team members and team.
(Range: Description is limited to structure of the organization)

Specific Outcome 5: Review the effectiveness of a team and own participation in the team within the workplace and learning environments.

5. Title : Apply Basic Written and Oral Communication Skills

Specific Outcome 1: Respond to simple written communication in the workplace.
(Range: A very simple memorandum)

Specific Outcome 2: Produce simple written communication in the workplace.
(Range: A very simple message)

Specific Outcome 3: Produce and respond to simple oral communication in the workplace.
(Range: A very simple request or instruction)

6. Title : Use numeracy for self-organisation

Specific Outcome 1: Describe the time schedule for a workplace,
(Range: Calculate daily and weekly working hours, breaks, and wages from start and finish times)

Specific Outcome 2: Describe the time schedule for a provider organisation.
(Range: Calculate daily, weekly and monthly learning hours from schedule)

Specific Outcome 3: Work out a personal time-management plan for ones own role in the workplace,
(Range: Identify time management problems, calculate time required for particular tasks, set goals and implement and monitor time management plan)

Specific Outcome 4: Work out a time schedule for ones own role within the provider organisation.
(Range: Identify time management problems, calculate time required for particular tasks, set goals and implement and monitor time management plan)

7. Title : Understand and Apply Personal Values and Ethics

Specific Outcome 1: Reflect on their own value system,
(Range: Identify the values evident in their practice within at least one instance of interaction with others)

Specific Outcome 2: Describe and analyse human rights issues in labour relations and in learnerships, as well as ethical issues more generally,
(Range: The rights and responsibilities of learners, training providers and employers in the learnership contract
The rights and responsibilities of employers and employees in the Bill of Rights, the Labour Relations Act, the Employment Equity Act, the Basic Conditions of Employment Act)

Specific Outcome 3: Deal with value conflicts between themselves and another

person,
(Range: Identify values differences in at least one instance of interaction with another person in a workplace or education/training environment.

Describe how the conflict was handled and describe an alternative with reference to the values underpinning how conflicts are handled)

Specific Outcome 4: Describe where values and ethics come from,
(Range: With reference to own values and ethics)

Specific Outcome 5: Describe how values of an individual develop and change,
(Range: With reference to personal life experience)

8. Title : Organise oneself in the Workplace

Specific Outcome 1: Maintain personal hygiene, grooming and dress code to project a professional image and enhance the company image.

(Range: Personal cleanliness, body odour, fresh breath, well-manicured hands, trimmed moustache/beard, appropriate hairstyle and tasteful make-up, immaculate uniform/dress)

Specific Outcome 2: Given a range of illness, decide whether to interact with people and follow company procedure when absent due to illness.
(Range: Contagious diseases/virus infections (flu, chicken pox, measles, etc.) Report absence, doctor's certificate, leave forms.

Specific Outcome 3: Evaluate own skills and areas for development on current and likely future work requirements to identify needs for skills development.

Specific Outcome 4: Set measurable, achievable objectives for own skills development, consistent with needs identified and in line with organisation's objectives and policies.

Specific Outcome 5: Prioritise objectives and plan activities to achieve objectives.

Specific Outcome 6: Identify possible unforeseen circumstances to plan alternative action in advance.

(Range: Lack of resources, change in company policy, interruption beyond control)

Specific Outcome 7: Review progress made and reschedule activities at regular intervals to contribute to achievement of planned objectives.

9. Title : Work with people who have special needs

Specific Outcome 1: Define at least one kind of physical and one kind of intellectual disability

(Range: Definition includes naming the disability. Definition includes outlining the physical/intellectual, social, psychological and professional implications for the person with disability)

Specific Outcome 2: Describe the causes of the physical and intellectual disability
(Range: Causes are limited to the immediate cause of the

disability)

Specific Outcome 3: Identify the basic requirements of legislation relating to people who have a disability
(Range: Basic requirements refer to summarising the main issues)

Specific Outcome 4: Reflect on own practices in the workplace and identify the underlying values relating to people who have a disability
(Range: Own workplace practices are described. The challenges presented by working with people who have special needs are identified. Own values and beliefs in relation to these challenges are outlined)

Specific Outcome 5: Describe the implications for working with a person who has a disability
(Range: Possible issues and choices are reviewed. Adaptations to work practices are explained.)

10. Title : Contribute to sustainable Tourism in South Africa

Specific Outcome 1: Demonstrate an understanding of the ethics and values associated with the idea of sustainable tourism
(Range: Identify the important issues connected with the protection of the natural, cultural, and social environment in their local area)

Specific Outcome 2: Identify and explain the different roles, responsibilities, and expectations of key stakeholders (those most closely involved with tourists and tourism enterprises)
(Range: Private sector, Government, Community partnerships. Possible benefits to communities or possible exploitation of communities. Possible differences between the expectations of tourists and cultural values and expectations of communities)

Specific Outcome 3: Apply a knowledge of appropriate conservation practice.
(Range: Avoid activities that can cause damage or unnecessary wear and tear to natural and cultural sites. Promptly report damage or excessive wear and tear to natural and cultural sites using the correct procedures. Be aware of the relevant authorities to whom to report to on conservation issues. Work within their organisation and with communities to develop awareness of appropriate conservation practice.)

Specific Outcome 4: Demonstrate an understanding of fundamental environmental impacts of tourism.
(Range: Increased demand for basic resources; food, water etc. Increased pressure on services; waste disposal, sewerage, power etc. Impacts on local communities.)

Specific Outcome 5: Demonstrate an understanding of various approaches to tourism.

(Range: Community partnerships, Communities as co-owners of tourism. Eco-tourism [Tourism specifically dependent on and sensitive to South African natural heritage]. Economic approach (Tourism as a mechanism for the creation and distribution of wealth).

Specific Outcome 6: Identify types of resources integral to tourism.

(Range: An appreciation of the value of heritage resources such as archaeological, historical, cultural, wildlife and scenic sites. The importance of infrastructure, finances, international image, human resources and social and political situations in the development of tourism enterprises)

Specific Outcome 7: Demonstrate a basic understanding of sustainability issues pertaining to their direct context:

(Range: Guest/host interaction and relationships. Building Community capacity towards participation. Tourism as an agent for change and the possible effects of this. Communities as beneficiaries of and participants in tourism. Reducing the impacts of tourism on the local natural, cultural, and social environment)

Specific Outcome 8: Reflect on own contribution to sustainability within a tourism enterprise or project.

(Range: Develop a model of their own place in an environmentally and culturally sustainable enterprise. Make suggestions regarding improved self-performance in relation to their understanding of sustainability)

11. Title : Understand and Interpret our Natural and Cultural Heritage

Specific Outcome 1: Demonstrate an understanding of the dynamic processes and agents shaping heritage

(Range: Historical and current political, economic, biophysical social factors, their impact on one another and on different ways of seeing heritage. Factors might include individuals, museums, zoos, natural resources, NGO/Community Based Organisations, the media, schools, funding agencies, etc)

Specific Outcome 2: Recognise types of heritage

(Range: Natural & cultural or tangible & non-tangible)

Specific Outcome 3: Use understanding of heritage to enhance performance

(Range: Enhance sensitivity towards and learn more about others by exploring different heritages. Explore options for using heritage in everyday work)

Specific Outcome 4: Recommend possible alternative elements for inclusion into a tourism experience

(Range: Enrich an existing tourism route or adventure by including issues of heritage. Recommend new heritage signs on a tourism route)

12. Title : Maintain Occupational Health and Safety

Specific Outcome 1: Follow workplace procedures for hazard identification and risk Control.

(Range: Recognising and reporting hazards in the work area to designated personnel according to workplace procedures. Accurately following workplace procedures and work instructions for controlling risks. Following workplace procedures, within scope of responsibilities and competencies, for dealing with accidents, fires and emergencies)

Specific Outcome 2: Contribute to participative arrangements for the management of occupational health and safety.

(Range: Raising occupational health and safety issues with designated personnel in accordance with workplace procedures and relevant occupational health and safety legislation. Contributing to participative arrangements for occupational health and safety management in the workplace within organisational procedures and scope of responsibilities and competencies)

13. Title : Demonstrate an understanding of HIV/AIDS and its implications

Specific Outcome 1: Describe and explain nature of HIV/AIDS,

Specific Outcome 2: Describe transmission routes

Specific Outcome 3: Describe and explain practices which reduce and prevent risk of infection

Specific Outcome 4: Reflect on their own attitudes toward HIV and AIDS

Specific Outcome 5: Describe and analyse beliefs and attitudes toward HIV and AIDS in the workplace e.g. Beliefs and attitudes of individuals and the organisation (as reflected in employment policies and education programmes)

Specific Outcome 6: Outline the rights of people living with HIV and AIDS.

14. Title : Create a Guided experience for customers

Specific Outcome 1: Establish needs, limitations and expectations of tourists.

(Range: Some knowledge of where tourists come from and what might interest them. The ability to assess individual and group interests and adapt the experience accordingly. Safely and effectively use necessary equipment according to specified local operational procedures. e.g. radio, spot lighting, technical equipment, jacks, vehicles.

Specific Outcome 2: Identify and assess locally accessible heritage resources and plan a guided experience

(Range: Identify sites that may be of interest to visitors that are easily accessed on foot or in the visitor's own car.

Conduct research into aspects of local history that are especially significant using mainly oral sources – but integrating these into the wider historical context where relevant.
Conduct research into local material culture such as hut architecture, craft production, music and performance traditions, oral traditions, poems, etc)

Specific Outcome 3: Provide informed and entertaining commentary on the sites, resources and experiences of the tourists – recognising that some sites and resources have differing significance for different groups (e.g. opponents in a battle site).

(Range: Be able to comment informally as the group proceeds
Ensure that knowledge and interpretation is at an appropriate level for the group. Use knowledge and interpretation to enrich the experience. Ensure that information is correct. And interpretation is credible/authentic/valid)

Specific Outcome 4: Apply a set of professional ethics to ensure the integrity of the cultural, environmental and interpersonal aspects of the experience.

(Range: Know and follow local operational procedures.
Observe the Guiding Code of Conduct; respectfully manage issues of cultural sensitivity; removal of shoes; no photography; respect for elders. Know and apply environmental sensitivity with respect to laws and regulations. Manage the group in a professional manner)

Specific Outcome 5: Ensure the health and safety of tourists on the guided experience with legal requirements.

(Range: Dealing with non-routine emergencies;
Avoiding circumstances, which may lead to personal risk: rough terrain, wet surfaces, use of equipment. Take into account specific medical conditions of members of the group)

Specific Outcome 6: Ensure legal requirements pertaining to the guided experience are adhered to.

(Range: Adhere to contract by delivering at least the minimum service sold to a customer. No changing the itinerary without concrete and justifiable reasons)

Specific Outcome 7: Reflect on the guided experience, and on own performance in order to improve future practice and learning

(Range: Evaluate the success of the guest experience; Evaluate own performance; Report orally on the success or problems of a tour. Decide on changes to enhance the experience)

15. Title : Conduct a guided nature experience in a limited Geographical area

Specific Outcome 1: Identify prominent plants and animals (mammals, birds, reptiles, etc.) in the area of operation, point out flag-ship species, interpret obvious behavioural patterns, and provide interesting additional information relating to the organisms pointed out.
(Range: Impala rut; Poisonous beetles associated with marula trees; Cultural use of buffalo thorn)

Specific Outcome 2: Demonstrate an understanding of basic animal behaviour patterns and ecological principles.
(Range: Feeding habits; Breeding habits; Territories and home ranges; Symbiotic relationships)

Specific Outcome 3: Identify and interpret obvious signs and sounds, especially warning signals, in the natural environment.
(Range: Alarm calls (oxpeckers, monkeys, tree squirrels, etc), larger mammal spoor and droppings, ruminant vs. hind-gut fermenters, common and distinctive sounds such as cicadas, pearl-spotted owl, zebra, impala)

Specific Outcome 4: Point out and explain evidence of human habitation and briefly relate cultural history.
(Range: Iron age sites, old fields, kraal sites, graves, implements, disturbed areas, previous occupation and movement of people, myths and legends)

Specific Outcome 5: Point out the most prominent stars, planets and constellations in the night sky at all times of the year.
(Range: Southern Cross, Orion, Scorpio, Venus, Sirius)

Specific Outcome 6: Demonstrate the ability to orientate him/herself in the natural environment using natural and man-made phenomena.
(Range: Southern Cross and other constellations (night), sun, wind, topographical features, weaver nests, roads, telephone lines)

16. Title : Create a Cultural guided experience in a limited Geographical area

Specific Outcome 1: Identify and assess the needs, limitations, interests and expectations of a target group of tourists.

Specific Outcome 2: Demonstrate a sound knowledge of South Africa's rich and diverse heritage resources as reflected in local heritage resources.

Specific Outcome 3: Identify and select cultural resources, heritage sites, and living cultural experiences appropriate to the group within the local area.

Specific Outcome 4: Access local oral and 'indigenous knowledge' and perspectives

Specific Outcome 5: Reflect a commitment to authenticity, multiple perspectives on events, people and places, avoid simple stereotyping and respect the integrity of the resources and/or host communities.

Specific Outcome 6: Construct itineraries appropriate to the interests and limitations of the group.

17. Title : Track animals and identify spoor using easily recognisable spoor

Specific Outcome 1: Accurately identify reasonably clearly defined spoor of small to large animals (classified as "easy" or "moderately difficult") occurring in the area of operation.

(Range: Mongoose, genet, civet, caracal, impala, elephant, steenbuck, leguaan, ostrich)

Specific Outcome 2: Systematically follow the track of a large ungulate or similar animal, or a human being, under easy conditions until it (he/she) is found.

(Range: Giraffe, Kudu, rhino, elephant, but not soft-footed animals such as cats. See notes)

Specific Outcome 3: Estimate the age of spoor as less than a day, one to two days or older

(Range: Use climatic conditions (rain, wind, etc.), soil type, and tracks of other animals to determine age)

Unit standards titles and specific outcomes at NQF level 3

1. Title : Conduct a limited guided nature experience

Specific Outcome 1: Identify all larger mammals, the most prominent birds (large, colourful, very common and/or specific interest), and common plants, reptiles, amphibians and arthropods in the area of operation, and interpret obvious behavioural patterns of these animals.

(Range: Impala rut, vultures circling around a carcass, dung beetles rolling a dung ball. Fish eagle, long-tailed shrike, orange-breasted sunbird, water leguaan, puff adder, antlion, cicada, sac spider, dangerous and non-dangerous scorpions, marula and leadwood trees, red grass, fever tea bush)

Specific Outcome 2: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment at an elementary level (equivalent to Grade 10 ecology).

(Range: Explain the relative abundance of organisms on the basis of energy flow, sourveld vs. sweetveld, plant succession, pollination, lichens, plant-soil-rock relationships)

Specific Outcome 3: Identify and interpret obvious signs and sounds in the natural environment.

(Range: Larger mammal spoor and droppings, ruminant vs. non-ruminant, common and distinctive sounds such as cicadas, pearl-spotted owl, zebra, impala, tree squirrel)

Specific Outcome 4: Apply basic first aid techniques for situations likely to be encountered outdoors.

Specific Outcome 5: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret obvious behaviour (territorial behaviour, mating) of these species.

Specific Outcome 6: Point out and explain human influences on the environment, and use cultural explanations where appropriate.
(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 7: Point out the most obvious stars, planets and constellations in the night sky at all times of the year.
(Range: Southern Cross, Orion, Scorpio, Venus, Sirius)

Specific Outcome 8: Demonstrate the ability to orientate him/herself in the natural environment using natural and man-made phenomena.
(Range: Southern Cross and other constellations (night), sun, wind, topographical features, weaver nests, roads, telephone lines)

Specific Outcome 9: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.
(Range: Not allowing littering, carrying cigarette butts with, not shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

Unit standards titles and specific outcomes at NQF Level 4

1. Title : Introduce South Africa to Tourists

Specific Outcome 1: Use basic information on South Africa and a local area to enhance a tourist's experience
(Range: Advise tourist on a range of attractions that meets their particular interest. Assist guests to plan their afternoon based on knowledge of local attractions)

Specific Outcome 2: Suggest and recommend alternative arrangements for clients based on changes in information
(Range: Suggest alternative venues or attractions to compensate for closures or cancellations. Suggest supplementary attractions to enhance or alter a tourist itinerary.

Specific Outcome 3: Advise clients on appropriate behaviour based on knowledge of the context
(Range: Protocol at a religious site, personal security advice in a city; not littering or disturbing vegetation in a natural habitat.

Specific Outcome 4: Access sources of information in order to provide a service to clients and keep personal knowledge up-to-date
(Range: Find out about traditional food in a specific area;

phoning the Automobile Association to find out the state of a road; knowing about current cultural events in the area; knowing the basic details about a current national issue. By means of radio, Internet, newspaper, industry publications and talking to people who are "in the know")

2. Title : Operate in a business

Specific Outcome 1: Describe typical ways that departments in a business are inter-dependant to ensure sustainable profit
(Range: Sales department dependant on marketing department; accounts dependant on administration)

Specific Outcome 2: Identify and locate the different facilities, departments and services of the organisation
(Range: Conference facilities)

Specific Outcome 3: Describe products and services provided by the organisation and explain the importance of promoting these

Specific Outcome 4: Encourage and record feedback received from customers and initiate service improvement

Specific Outcome 5: Maintain confidentiality of sensitive information and documents to protect customers and the business
(Range: Passports / ID documents; personal information of customers)

Specific Outcome 6: Understand and operate within given budgets

Specific Outcome 7: Charge customers for services and process credit or cash sales in accordance with the accepted practice

Specific Outcome 8: Issue invoices and receipts if necessary

3. Title : Oversee arrival and departure of customers

Specific Outcome 1: Check customer arrival and departure information and note accurately, with prompt implementation of any action required to deal with alterations required in schedule.
(Range: Preparation (coach, toilets, time)
Documentation (tickets passports)

Specific Outcome 2: Greet customers in a manner, which encourages feelings of goodwill towards the self, the organisation and South Africa in general.
(Range: Establish an individual as well as a group relationship on arrival. Adapt to customer's cultural background)

Specific Outcome 3: Offer customers friendly and efficient assistance to facilitate arrival and departure to enhance their tourist experience.
(Range: Follow the correct procedures for the arrival and departure of customers. Provide information on local area)

Specific Outcome 4: Provide technical information.

(Range: Luggage handling, Forex opportunities, VAT claim procedures, Malaria, Security and safety points with regards to jewellery, electronics, passports, and traveller's cheques, Tipping)

Specific Outcome 5: Communicate effectively to create solutions for any problems that may arise.

Specific Outcome 6: Reflect on own performance and identify possible areas for self-improvement.

4. Title : Care for customers

Specific Outcome 1: Identify customer needs and expectations, including those with specific needs, correctly and identify appropriate products and services.

(Range: All reasonable needs and requests are met within acceptable time frames)

Specific Outcome 2: Recognise customer dissatisfaction and take action to resolve the situation.

(Range: Complaints are handled promptly, positively, sensitively and politely. Customer complaints are resolved according to individual level of responsibility and enterprise procedures. Complaints are referred to the appropriate person for follow-up, according to individual level of responsibility)

Specific Outcome 3: Identify and take opportunities to enhance the quality of customer service.

(Range: Check all elements on itinerary with service providers prior to customer arrival. Ensure best possible service levels at all times (no queuing).

Specific Outcome 4: Communicate with all customers in a friendly and courteous manner.

Specific Outcome 5: Reflect on own performance and identify possible areas for self-improvement.

5. Title : Operate within the National and International Legal Framework

Specific Outcome 1: Be attentive of contractual obligations.

(RANGE: The description of a visit or a tour itinerary represents a legal binding contract. Confirmed reservations imply an obligation by the service provider. Itineraries must not be changed without concrete and justifiable reasons. Delivering at least the minimum service sold to the customers must adhere to the contract)

Specific Outcome 2: Act according to health & safety regulations.

(Range: safety regulations in National Parks and Nature Reserves special procedures and regulations pertaining to adventure activities, rest periods for drivers, medical advice, medication and treatment other than 1st aid can only be

provided by qualified medical personnel)

Specific Outcome 3: Act in awareness of legally established customer-client relationships.

(Range: Be aware of customer protection framework in the E.U. and U.S., be familiar with basic content of general conditions pertaining to changes and cancellations, know which incidents are said to constitute an "act of god")

Specific Outcome 4: Respect South African legal restrictions.

(Range: in reference to passenger road transport, criminal law (prostitution, drugs), restricted areas access, indemnity forms)

6. Title : Conduct a guided nature experience

Specific Outcome 1: Identify and place in broad non-technical taxonomical context all common plants and commonly encountered animals in the area of operation, identify and interpret obvious signs and sounds left or made by these animals, and give valid elementary scientific and/or cultural explanations of their features and behavioural patterns.

(Range: Explain the social structure and behaviour of elephants, the outstanding features of commonly encountered insect orders, "anting" behaviour of birds. Identify common spoor, droppings and territorial markings, bird nests, mammal, bird, reptile (crocodile and geckoes) and insect sounds.

Specific Outcome 2: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret their behaviour.

(Range: Territorial behaviour, mating, feeding and teaching of young, interaction between predators, elephant-rhino, etc.

Specific Outcome 3: Point out and interpret obvious and distinctive topographical features of the area of operation, major constellations, planets and other features of the night sky and local weather patterns, and use these for orientation.

(Range: Dolerite dykes, granite hills; thunderstorms, cold fronts; Southern Cross, evening and morning star, red giants)

Specific Outcome 4: Point out and explain human influences on the environment, use them for orientation, and use cultural explanations where appropriate.

(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 5: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment at an elementary scientific level. (Range: Explain the reasons why there are fewer predators than prey organisms, effects of fire on vegetation and animals, the effect of soil on vegetation, insect-plant interactions)

Specific Outcome 6: Apply basic first aid techniques for situations likely to be encountered outdoors

Specific Outcome 7: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.

(Range: Not allowing littering, carrying cigarette butts with, not shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

7. Title : Conduct a guided cultural experience

Specific Outcome 1: Identify and assess the needs, limitations, interests and expectations of a target group of tourists.

(Range: Different identities and values. Different memories regarding monuments, battle sites. Construct itineraries appropriate to the interests and limitations of the group.

Specific Outcome 2: Demonstrate a sound knowledge of South African's heritage resources.

(Range: in-depth local knowledge of South Africa's rich and diverse heritage resources, brief international overview)

Specific Outcome 3: Identify and select different sites appropriate to the group within a defined region.

(Range: cultural resources, heritage sites, living cultural experiences)

Specific Outcome 4: Gather information from published and oral sources on the specific sites and the broader local context.

(Range: Survey available tourist literature. Talk to local tour operators and guides. Present at an appropriate level for both general and special interest groups. Access local oral and 'indigenous knowledge' and perspectives. Conduct further 'in-depth' research into specific sites and events using more than just tourist literature)

Specific Outcome 5: Demonstrate awareness of the ways people, their cultures and heritage have been represented in past tourist literature and experiences.

(Range: heritage of the majority of the population was previously written out of public history, trivialisation in natural history museums and displays put on for tourists, heritage and culture are continuously being created and re-created according to changing attitudes, needs and identities)

Specific Outcome 6: Reflect a commitment to authenticity, multiple perspectives on events, people and places, avoid simple stereotyping and respect the integrity of the resources and/or host communities.

(Range: heritage sites (e.g. monuments, battle sites, etc) can be places where different memories can feel respected, people with different identities and values can find common ground)

Specific Outcome 7: Reflect on the interpretation experience and on his/her own performance in order to improve the quality of the guided

experience.

8. Title : Track animals and identify spoor using moderately difficult spoor

Specific Outcome 1: Accurately identify from clearly defined to obscure spoor of small to large animals (classified as "easy", "moderately difficult" and "very difficult") occurring in the area of operation.

(Range: Mongoose, genet, civet, caracal, impala, elephant, steenbuck, leguaan, ostrich)

Specific Outcome 2: Systematically follow the track of a medium to large animal for at least 30 minutes until it is found under moderately difficult conditions

(Range: Rhino, elephant, lion)

Specific Outcome 3: Interpret behavioural patterns of animals by means of inductive-deductive reasoning from observation of spoor

(Range: Mating, chasing prey, feeding, territorial marking, resting)

Specific Outcome 4: Estimate the age of spoor as fresh enough to follow and find or not.

(Range: Use climatic conditions (rain, wind, etc.), soil type, tracks of other animals to determine age (today, yesterday or older)

Unit standards titles and specific outcomes at NQF Level 6

1. Title : View potentially dangerous animals

Specific Outcome 1: Co-ordinate with other guides and/or operators that there will be no disturbance on a trail.

(Range: Ensure no vehicle-bound guides driving into sightings while a trail is in process in the area.

Specific Outcome 2: Ensure that clients know exactly what is expected of them before coming on trail, while walking and when faced with possible dangerous situations.

(Range: Ensure that neutral clothing is worn, give a pre-trail briefing explaining hand signals that will be used, walk in single file, etc)

Specific Outcome 3: Be in control of the group of clients at all times and in all situations in a firm but friendly way.

(Range: Ensure that clients always listen to instructions without aggravating them)

Specific Outcome 4: Maintain constant all-round awareness to recognise opportunities and avoid any threats to the safety of clients and her/himself, taking into account possible clients' limitations.

(Range: Avoiding thick bush where black rhino or lion may be hiding or reed beds where lone buffalo may be hiding, listening to warning sounds (e.g. lion females communicating with their cubs, alarm calls of birds), noting single buffalo spoor, letting clients with bright clothing walk behind him/her, reducing pace

when unfit clients present)

Specific Outcome 5: Take the necessary precautions when approaching potentially dangerous game to minimise the risk of confrontations and engagements.

(Range: Approach game from downwind except when there is a specific reason not to do so, keep a safe distance, make use of the sun, trees, rocks, etc. to avoid detection, plan possible escape routes, withdraw upon signs of discomfort by the animals)

Specific Outcome 6: Deal efficiently with any unexpected confrontations by dangerous animals.

(Range: Get clients to back off in an orderly and controlled fashion, shoot the animal and kill it with a maximum of two shots if there is absolutely no other alternative)

Specific Outcome 7: Handle his/her firearm in such a way that it is ready when needed without endangering the safety of clients.

(Range: Magazine loaded but no rounds in the chamber except when actually intending to shoot an animal out of necessity, ensuring that clients never have access to rifle, never intentionally or unintentionally pointing the rifle at any person.

Specific Outcome 8: Where a "back-up" participates on the trail, ensure efficient communication with this person to enhance the safety of the group.

(Range: Have pre-arranged communication and emergency procedures)

2. Title : Conduct an advanced guided nature experience

Specific Outcome 1: Identify and place in taxonomical context all common plants and commonly encountered animals in the area of operation, identify and interpret obvious signs and sounds left or made by these animals, and give valid scientific explanations/theories of their features and behavioural patterns.

(Range: Explain the social structure and behaviour of elephants, the typical features of commonly encountered insect orders, "anting" behaviour of birds; present theories on bird migration. Identify common spoor, droppings and territorial markings, bird nests, mammal, bird, reptile (crocodile and geckoes) and insect sounds)

Specific Outcome 2: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret their behaviour.

(Range: Territorial behaviour, mating, feeding and teaching of young, interaction between predators, elephant-rhino, etc)

Specific Outcome 3: Point out and interpret at an elementary scientific level obvious topographical features of the area of operation, major constellations and their component stars, planets and other features of the night sky and local weather patterns, and use

these for orientation.

(Range: The geological evolution of Mpumalanga giving rise to the Mpumalanga Drakensberg, Bushveld igneous complex, dolerite dykes, erosional features; cold and warm fronts; Southern Cross, Taurus, evening and morning star, red giants, Galaxies)

Specific Outcome 4: Point out and explain human influences on the environment, use them for orientation, and use cultural explanations where appropriate.

(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 5: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment using appropriate scientific theories where necessary.

(Range: Explain the effects of fire on vegetation and animals, soil-vegetation interactions such as catena's, tannin and pheromone secretion of plants and its effects on browsers, insect-plant interactions)

Specific Outcome 6: Apply basic first aid techniques for situations likely to be encountered outdoors.

Specific Outcome 7: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.

(Range: Not allowing littering, carrying cigarette butts with, not shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

3. Title : Track animals and identify spoor using difficult spoor

Specific Outcome 1: Accurately identify from clearly defined to obscure spoor of all small to large animals (classified as "moderately difficult" and "very difficult") occurring in the area of operation, and distinguish between the sexes of larger animals.

(Range: Mud wasps, tortoises, Genet, Civet, caracal, impala, steenbuck, leguaan, tree squirrel.

Specific Outcome 2: Systematically follow the track of a lion or leopard until the animal is found without it being aware of the tracker.

Specific Outcome 3: Interpret behavioural patterns of animals by means of hypothetico-deductive and speculative reasoning from observation of spoor

(Range: Signs of stress, location of carcasses (feeding), mating, chasing prey, feeding, territorial marking.

Specific Outcome 4: Detect the presence of danger through peripheral perception (intuitively "feel" danger before consciously observing signs of danger)

(Range: Intuitively "feel" that a buffalo is waiting behind a bush to charge without having picked this up from the spoor, and

avoiding a charge by changing direction.

Specific Outcome 5: Estimate the age of spoor as fresh enough to follow and find or not.

(Range: Use climatic conditions (rain, wind, etc.), soil type, tracks of other animals to determine age (yesterday, today or older).

NATIONAL CERTIFICATE IN TOURISM: GUIDING**Field** : Services**Sub-field** : Tourism Guiding**NQF level** : 4**Credits** : 142**Purpose of the Qualification:**

In the context of the guiding sector, this qualification will enable the creation of innovative and exciting guided experiences. A qualifying learner will be able to contribute positively towards the guiding sector as a part of Southern Africa's tourism industry.

A learner who has achieved this qualification will be capable of combining a range of life-long learning skills and a knowledge of South African tourism issues, integrating these within a context to produce multi-skilled guiding practices.

In addition they will be positioned to further their learning, practice and career within the guiding sector - either at further levels or in other areas of practice. Expansion into other sectors of tourism is also possible.

UNIT STANDARDS FOR TOURISM GUIDING**Unit Standards at NQF Level 2**

1. Title : Operate a Personal Computer System (I.D. 7547)
2. Title : Organise oneself in the workplace
3. Title : Maintain Occupational Health and safety
4. Title : Conduct a guided nature experience in a limited Geographical Area
5. Title : Create a guided cultural experience in a limited Geographical Area
6. Title : Track animals and identify spoor using easily recognizable spoor

Unit Standards at NQF Level 3

1. Title : Conduct a limited guided nature experience

Unit Standards at NQF Level 4

1. Title : Plan and Conduct Research
2. Title : Analyse and Understand Social Issues

Qualification Matrix

	Level 2		Level 4		Total
Fundamentals	Operate a PC Organise Oneself in the Workplace	6 3	Plan & Conduct Research Analyse & understand Social Issues Function in a Team Interact Orally & in Writing in the Workplace Collate, understand & communicate Workplace data Numeracy Demonstrate an understanding of societal values & ethics Demonstrate an understanding of issues affecting people with special needs	6 4 4 10 5 13 4 4	59
Core	Maintain Occupational Health & Safety	2	Acquire an Overview of South Africa Weave South African Heritage into Tourism Contribute to sustainable tourism in South Africa Operate in a business Oversee Arrival & departure of customers Care for customers Contribute to information distribution regarding HIV/AIDS in the workplace Conduct a Guided experience with customers Design a Guided experience for customers Interpret guiding for tourists Operate within the national & international legal framework	9 9 7 4 3 3 4 7 5 7 5	65
Elective			Specialised guiding	18	18
TOTAL		11		131	142

3. Title : Function in a Team
4. Title : Interact Orally and in Writing in the Workplace
5. Title : Collate, Understand & Communicate Workplace Data
6. Title : Demonstrate an understanding of Societal Values & Ethics
7. Title : Demonstrate an Understanding of issues affecting people with special needs
8. Title : Acquire an overview of South Africa
9. Title : Weave South African heritage into tourism
10. Title : Contribute to sustainable tourism in South Africa
11. Title : Operate in a business
12. Title : Oversee arrival and departure of customers
13. Title : Care for customers
14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace
15. Title : Conduct a guided experience with customers
16. Title : Design a guided experience for customers
17. Title : Interpret guiding for tourists
18. Title : Operate within the National and International Legal Framework
19. Title : Conduct a guided nature experience
20. Title : Conduct a guided cultural experience
21. Title : Track animals and identify spoor using moderately difficult spoor

Unit Standards at NQF Level 6

1. Title : View potentially dangerous animals
2. Title : Conduct an advanced guided nature experience
3. Title : Track animals and identify spoor using difficult spoor

Unit standards titles and specific outcomes at NQF level 2

1. Title : Operate a Personal Computer System

Registered Unit Standard (I.D. 7547)

2. Title : Organise oneself in the Workplace

Specific Outcome 1: Maintain personal hygiene, grooming and dress code to project a professional image and enhance the company image.

(Range: Personal cleanliness, body odour, fresh breath, well-manicured hands, trimmed moustache/beard, appropriate hairstyle and tasteful make-up, immaculate uniform/dress)

Specific Outcome 2: Given a range of illness, decide whether to interact with people and follow company procedure when absent due to illness.

(Range: Contagious diseases/virus infections (flu, chicken pox, measles, etc.) Report absence, doctor's certificate, leave forms.)

Specific Outcome 3: Evaluate own skills and areas for development on current and likely future work requirements to identify needs for skills development.

Specific Outcome 4: Set measurable, achievable objectives for own skills development, consistent with needs identified and in line with organisation's objectives and policies.

Specific Outcome 5: Prioritise objectives and plan activities to achieve objectives.

Specific Outcome 6: Identify possible unforeseen circumstances to plan alternative action in advance.

(Range: Lack of resources, change in company policy, interruption beyond control)

Specific Outcome 7: Review progress made and reschedule activities at regular intervals to contribute to achievement of planned objectives.

3. Title : Maintain Occupational Health and safety

Specific Outcome 1: Follow workplace procedures for hazard identification and risk Control.

(Range: Recognising and reporting hazards in the work area to designated personnel according to workplace procedures. Accurately following workplace procedures and work instructions for controlling risks. Following workplace procedures, within scope of responsibilities and competencies, for dealing with accidents, fires and emergencies)

Specific Outcome 2: Contribute to participative arrangements for the management of occupational health and safety.

(Range: Raising occupational health and safety issues with designated personnel in accordance with workplace procedures and relevant occupational health and safety legislation. Contributing to participative arrangements for occupational health and safety management in the workplace within organisational procedures and scope of responsibilities and competencies)

4. Title : Conduct a guided nature experience in a limited Geographical Area

Specific Outcome 1: Identify prominent plants and animals (mammals, birds, reptiles, etc.) in the area of operation, point out flag-ship species, interpret obvious behavioural patterns, and provide interesting additional information relating to the organisms pointed out.
(Range: Impala rut; Poisonous beetles associated with marula trees; Cultural use of buffalo thorn)

Specific Outcome 2: Demonstrate an understanding of basic animal behaviour patterns and ecological principles.

(Range: Feeding habits; Breeding habits; Territories and home ranges; Symbiotic relationships)

Specific Outcome 3: Identify and interpret obvious signs and sounds, especially warning signals, in the natural environment.

(Range: Alarm calls (oxpeckers, monkeys, tree squirrels, etc), larger mammal spoor and droppings, ruminant vs. hind-gut fermenters, common and distinctive sounds such as cicadas, pearl-spotted owl, zebra, impala)

Specific Outcome 4: Point out and explain evidence of human habitation and briefly relate cultural history.

(Range: Iron age sites, old fields, kraal sites, graves,

implements, disturbed areas, previous occupation and movement of people, myths and legends)

Specific Outcome 5: Point out the most prominent stars, planets and constellations in the night sky at all times of the year.
(Range: Southern Cross, Orion, Scorpio, Venus, Sirius)

Specific Outcome 6: Demonstrate the ability to orientate him/herself in the natural environment using natural and man-made phenomena.
(Range: Southern Cross and other constellations (night), sun, wind, topographical features, weaver nests, roads, telephone lines)

5. Title : Create a guided cultural experience in a limited Geographical Area

Specific Outcome 1: Identify and assess the needs, limitations, interests and expectations of a target group of tourists.

Specific Outcome 2: Demonstrate a sound knowledge of South Africa's rich and diverse heritage resources as reflected in local heritage resources.

Specific Outcome 3: Identify and select cultural resources, heritage sites, and living cultural experiences appropriate to the group within the local area.

Specific Outcome 4: Access local oral and 'indigenous knowledge' and perspectives

Specific Outcome 5: Reflect a commitment to authenticity, multiple perspectives on events, people and places, avoid simple stereotyping and respect the integrity of the resources and/or host communities.

Specific Outcome 6: Construct itineraries appropriate to the interests and limitations of the group.

6. Title : Track animals and identify spoor using easily recognizable spoor

Specific Outcome 1: Accurately identify reasonably clearly defined spoor of small to large animals (classified as "easy" or "moderately difficult") occurring in the area of operation.
(Range: Mongoose, genet, civet, caracal, impala, elephant, steenbuck, leguaan, ostrich)

Specific Outcome 2: Systematically follow the track of a large ungulate or similar animal, or a human being, under easy conditions until it (he/she) is found.
(Range: Giraffe, Kudu, rhino, elephant, but not soft-footed animals such as cats. See notes)

Specific Outcome 3: Estimate the age of spoor as less than a day, one to two days or older
(Range: Use climatic conditions (rain, wind, etc.), soil type, and tracks of other animals to determine age)

Unit standards titles and specific outcomes at NQF level 3**1. Title : Conduct a limited guided nature experience**

Specific Outcome 1: Identify all larger mammals, the most prominent birds (large, colourful, very common and/or specific interest), and common plants, reptiles, amphibians and arthropods in the area of operation, and interpret obvious behavioural patterns of these animals.

(Range: Impala rut, vultures circling around a carcass, dung beetles rolling a dung ball. Fish eagle, long-tailed shrike, orange-breasted sunbird, water leguaan, puff adder, antlion, cicada, sac spider, dangerous and non-dangerous scorpions, marula and leadwood trees, red grass, fever tea bush)

Specific Outcome 2: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment at an elementary level (equivalent to Grade 10 ecology).

(Range: Explain the relative abundance of organisms on the basis of energy flow, sourveld vs. sweetveld, plant succession, pollination, lichens, plant-soil-rock relationships)

Specific Outcome 3: Identify and interpret obvious signs and sounds in the natural environment.

(Range: Larger mammal spoor and droppings, ruminant vs. non-ruminant, common and distinctive sounds such as cicadas, pearl-spotted owl, zebra, impala, tree squirrel)

Specific Outcome 4: Apply basic first aid techniques for situations likely to be encountered outdoors.

Specific Outcome 5: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret obvious behaviour (territorial behaviour, mating) of these species.

Specific Outcome 6: Point out and explain human influences on the environment, and use cultural explanations where appropriate.

(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 7: Point out the most obvious stars, planets and constellations in the night sky at all times of the year.

(Range: Southern Cross, Orion, Scorpio, Venus, Sirius)

Specific Outcome 8: Demonstrate the ability to orientate him/herself in the natural environment using natural and man-made phenomena.

(Range: Southern Cross and other constellations (night), sun, wind, topographical features, weaver nests, roads, telephone lines)

Specific Outcome 9: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.

(Range: Not allowing littering, carrying cigarette butts with, not

shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

Unit standards and specific outcomes at NQF level 4

1. Title : Plan and Conduct Research

Specific Outcome 1: Plan a research project.

(Range: A focus on investigating the flow of work through which a product or service is delivered, in a customer-supplier analysis.)

Specific Outcome 2: Collate data using more than one simple research technique.

(Range: More than one simple research technique (interviews, focus groups).)

Specific Outcome 3: Analyse data using more than one simple data analysis technique.

(Range: More than one simple data analysis technique (such as a flow charts and bar diagrams).)

Specific Outcome 4: Prepare and present a brief written report on the findings.

(Range: A brief written report (roughly five pages).)

Specific Outcome 5: Evaluate the effectiveness and appropriacy of the research techniques and project plan.

(Range: Evaluation should include reflection on the appropriacy and effectiveness of techniques selected).

2. Title : Analyse and Understand Social Issues

Specific Outcome 1: Select a sociological issue for consideration and justify the choice with reference to workplaces within a particular industry.

(Range: Sociological features could include any of the categories used in the Employment Equity Act, the Bill of Rights or drawn from social theory. Justification must include at least an argument as to the relevance of the issue to the industry chosen).

Specific Outcome 2: Examine workplaces in the industry in terms of any key sociological feature.

(Range: Examination requires both an historical and current description).

Specific Outcome 3: Analyse the constitutional, legislative or policy issues impacting on the sociological feature.

(Range: Analysis must include a critical evaluation of the constitutional, legislative or policy requirements).

Specific Outcome 4: Explain the impact on individuals and groups in the workplace.

(Range: Explanation must be justified with reference to actual rather than hypothetical instances).

Specific Outcome 5: Reflect on the implications for themselves.

3. Title : Function in a Team

Specific Outcome 1: Identify the structure and purpose of a limited variety of teams in a limited variety of work places and learning environments.
(Range: Outlining team organisation, working relationships and goals).

Specific Outcome 2: Describe and carry out the roles and responsibilities required to work in a team in the workplace and learning environment.

Specific Outcome 3: Identify factors affecting a team within workplace and learning environment and explain affect with reference to an established theory of the affect of organisations on teamwork.

Specific Outcome 4: Describe the workplace and learning environment organisation and identify its influence on team members and team with reference to an established theory of the influence of social structure on teamwork.

Specific Outcome 5: Review the effectiveness of a team and own participation in the team within the workplace and learning environments.

4. Title : Interact Orally and in Writing in the Workplace

Specific Outcome 1: Respond to simple written communications in the workplace.
(Range: A staff circular).

Specific Outcome 2: Produce simple written communication in the workplace.
(Range A simple report).

Specific Outcome 3: Produce and respond to simple oral communication in the workplace.
(Range: Offer a short verbal report).

5. Title : Collate, Understand & Communicate Workplace Data

Specific Outcome 1: Read and use a basic scale
(Range: Using a familiar measuring instrument. To determine quantities to the nearest marked number).

Specific Outcome 2: Use basic graphical techniques to understand and communicate information relating to work environment,
(Range: Develop a basic table or graph to capture information in relation to any workplace task. Understand the information presented in the table or graph. Present the information using a table or graph).

6. Title : Demonstrate an understanding of Societal Values & Ethics

Specific Outcome 1: Describe how a democratic society functions and what citizenship means.
(Range: Rights and responsibilities of a government and its citizens. Issues of human rights, social justice and equality).

- Specific Outcome 2: Identify the values contained in the South African Constitution and Bill of Rights and the principles which underpin these values.
(Range: Values like human dignity, equality, non-racialism and the universal moral principles on which they are based).
- Specific Outcome 3: Describe democracy in the workplace and how it contributes to a more just and equitable society
(Range: Rights and responsibilities of employers and employees in terms of legislation like the Labour Relations Act, the Employment Equity Act, the Basic Conditions of Employment Act, the Skills Development Act)
- Specific Outcome 4: Describe why value conflicts and ethical dilemmas arise around particular issues in society and in the workplace
(Range: The duty of government is to regulate the behaviour of citizens, groups, institutions and organisations but such action may at the same time be in conflict with their rights and freedoms so that value conflict arises).
- Specific Outcome 5: Analyse such incidents of value conflict in society and suggest ways/approaches for dealing with such dilemmas,
(Range: How to assess the dilemmas that arise when the interests of different groups or constituencies are in conflict. Ways of resolving such conflict).

7. Title : Demonstrate an Understanding of issues affecting people with special needs.

- Specific Outcome 1: Identify a limited spectrum of physical and intellectual disabilities prevalent in South Africa
(Range: Definition includes naming the disabilities. Definition includes outlining the physical/intellectual, social, psychological and professional implications for people with disability).
- Specific Outcome 2: Describe the causes of the physical and intellectual disability
(Range: Causes include the social and economic factors contributing to the disabilities).
- Specific Outcome 3: Identify the basic requirements of South African policy and legislation relating to people who have a disability
(Range: Basic requirements refers to summarising the main issues).
- Specific Outcome 4: Reflect on own practices in the workplace and identify the underlying values relating to people who have a disability
(Range: Practices in the workplace are described. The challenges presented by working with people who have special needs are identified. Own values and beliefs in relation to these challenges are outlined).
- Specific Outcome 5: Describe the implications for working in teams with people who have a disability
(Range: Possible issues and choices are reviewed. Adaptations to work practices are explained).

8. Title : Acquire an overview of South Africa

Specific Outcome 1: Use information on South Africa and a local area to design an appropriate tourism experience or tourism support
(Range: Design an itinerary for a group of nature lovers; using knowledge of South Africa's natural heritage. Assist guests to plan their afternoon based on knowledge of local attractions. Design and cost a travel plan in support of a tourist itinerary).

Specific Outcome 2: Suggest alternative arrangements for clients based on changes in information
(Range: Change a route due to weather. Suggest a back-up plan in case of the unexpected. Make alternative bookings to a cancelled event).

Specific Outcome 3: Advise clients on appropriate behaviour based on knowledge of the context
(Range: Protocol at a religious site, personal security advice in a city; not littering or disturbing vegetation in a natural habitat).

Specific Outcome 4: Access sources of information in order to provide a service to clients and keep personal knowledge up-to-date
(Range: Find out about traditional food in a specific area; phoning the Automobile Association to find out the state of a road; knowing about current cultural events in the area; knowing the basic details about a current national issue. By means of radio, internet, newspaper, industry publications and talking to people who are "in the know").

Specific Outcome 5: Interpret possibly controversial information for clients in a manner that enhances their overall experience of South Africa
(Range: A cricketing bribery scandal. This might be interpreted by saying that corruption is unacceptable to the country and shocking in its extent. However, it would also be point out the speed with which a commission was appointed; the transparency and thoroughness of televised hearings; the severe penalties imposed on those found to be guilty; similar investigations sparked off in a number of other countries; resultant changes in international attitudes; and corrective actions taken towards possible corruption in cricket).

9. Title : Weave South African heritage into tourism

Specific Outcome 1: Demonstrate an understanding of the dynamic processes and agents shaping heritage
(Range: Historical and current political, economic, biophysical social factors, their impact on one another and on different ways of seeing heritage. Agents might include individuals, museums, zoos, nature resources, NGO/Community Based Organisations, the media, schools, funding agencies, etc).

Specific Outcome 2: Recognise inter-connections between perceived "types" of heritage
(Range: Natural & cultural, colonial & post-colonial, authentic &

inauthentic, tangible & non-tangible, etc).

Specific Outcome 3: Craft a narrative by using more than one voice and identifying silences in other narratives
(Range: Use the tourist brochure for your own town and identify whose views dominate the information and who and what is left out. E.g. Identify different groups involved in an historical situation and tell a story which tries to capture different possible views. E.g. show that cultural and political factors are integral to the development of natural landscapes).

Specific Outcome 4: Weave the above outcomes into a tourism experience
(Range: Enrich an existing tourism route or adventure by including issues of heritage. Recommend new heritage signs on a tourism route. Create a new heritage route in a natural landscape).

Specific Outcome 5: Recognise own place in South African Heritage
(Range: Place own family in South African heritage. Explore some of the personal consequences of own cultural inheritance, such as language, religion, class, and gender).

10. Title : Contribute to sustainable tourism in South Africa

Specific Outcome 1: Demonstrate a good understanding of the ethics and values associated with the concept of sustainable tourism
(Range: A range of issues connected with the natural, cultural, and social environment within South Africa. Ways to respond to these issues in a sustainable tourism context. The underlying social, political and cultural influences supporting the concept of sustainability).

Specific Outcome 2: Demonstrate a practical understanding of and sensitivity for dealing with the divergent needs of tourists and host communities.
(Range: Potentially conflicting expectations of tourists and the cultural values of host communities).

Specific Outcome 3: Demonstrate a practical understanding of the different roles, responsibilities, relationships, and expectations of all relevant stakeholders.
(Range: The roles taken by stakeholders in partnership projects. The potential conflicts between the needs of different stakeholders. Methods of ensuring full participation of all stakeholders in sustainable tourism enterprises. The different roles played by stakeholders such as; Government, tourists, entrepreneurs and communities, and the relationships between them).

Specific Outcome 4: Understand and participate in debates with respect to the enhancement of sustainable tourism.
(Range: Be conversant with the basic issues regarding the protection of the natural, cultural, and social environment).

Specific Outcome 5: Demonstrate an understanding of approaches to sustainable tourism.

(Range: Community involvement and partnerships. Respect for the integrity and values of communities. Minimising the impacts of tourism on the natural, cultural, and social environment. Knowledge of national and international codes of ethics relating to sustainability. Recognition of the different aspects of sustainable tourism such as commercial and environmental).

Specific Outcome 6: Apply an understanding of elementary strategies for the conservation of cultural and natural sites.

(Range: Follow the correct procedures and channels to promptly report damage or unusual wear and tear to natural and cultural sites to the relevant authorities. Advise on appropriate behaviour on sites to minimise the impact of visits to sites. Work within their organisation and with communities to develop awareness of appropriate conservation practice).

Specific Outcome 7: Use opportunities to promote other cultural activities, events and sites.

(Range: Link tourist information with current events on daily basis and advise accordingly).

Specific Outcome 8: Reflect on own contribution to sustainability of a tourism enterprise or project.

(Range: Develop a clear model of their own place in a commercially, environmentally and culturally sustainable enterprise. Make suggestions regarding improved self-performance and their organisation's performance, in relation to their understanding of sustainability).

11. Title : Operate in a business

Specific Outcome 1: Describe typical ways that departments in a business are inter-dependant to ensure sustainable profit

(Range: Sales department dependant on marketing department; accounts dependant on administration)

Specific Outcome 2: Identify and locate the different facilities, departments and services of the organisation

(Range: Conference facilities)

Specific Outcome 3: Describe products and services provided by the organisation and explain the importance of promoting these

Specific Outcome 4: Encourage and record feedback received from customers and initiate service improvement

Specific Outcome 5: Maintain confidentiality of sensitive information and documents to protect customers and the business

(Range: Passports / ID documents; personal information of customers)

Specific Outcome 6: Understand and operate within given budgets

Specific Outcome 7: Charge customers for services and process credit or cash sales in accordance with the accepted practice

Specific Outcome 8: Issue invoices and receipts if necessary

12. Title : Oversee arrival and departure of customers

Specific Outcome 1: Check customer arrival and departure information and note accurately, with prompt implementation of any action required to deal with alterations required in schedule.
(Range: Preparation (coach, toilets, time)
Documentation (tickets passports)

Specific Outcome 2: Greet customers in a manner, which encourages feelings of goodwill towards the self, the organisation and South Africa in general.
(Range: Establish an individual as well as a group relationship on arrival. Adapt to customer's cultural background)

Specific Outcome 3: Offer customers friendly and efficient assistance to facilitate arrival and departure to enhance their tourist experience.
(Range: Follow the correct procedures for the arrival and departure of customers. Provide information on local area)

Specific Outcome 4: Provide technical information.
(Range: Luggage handling, Forex opportunities, VAT claim procedures, Malaria, Security and safety points with regards to jewellery, electronics, passports, and traveller's cheques, Tipping)

Specific Outcome 5: Communicate effectively to create solutions for any problems that may arise.

Specific Outcome 6: Reflect on own performance and identify possible areas for self-improvement.

13. Title : Care for customers

Specific Outcome 1: Identify customer needs and expectations, including those with specific needs, correctly and identify appropriate products and services.
(Range: All reasonable needs and requests are met within acceptable time frames)

Specific Outcome 2: Recognise customer dissatisfaction and take action to resolve the situation.
(Range: Complaints are handled promptly, positively, sensitively and politely. Customer complaints are resolved according to individual level of responsibility and enterprise procedures. Complaints are referred to the appropriate person for follow-up, according to individual level of responsibility)

Specific Outcome 3: Identify and take opportunities to enhance the quality of

customer service.

(Range: Check all elements on itinerary with service providers prior to customer arrival. Ensure best possible service levels at all times (no queuing).

Specific Outcome 4: Communicate with all customers in a friendly and courteous manner.

Specific Outcome 5: Reflect on own performance and identify possible areas for self-improvement.

14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace

Specific Outcome 1: Describe attitudes toward HIV and AIDS in the workplace,
(Range: Attitudes of the organisation (as evident in employment policies and practices; education or awareness programmes; or other organisational policies and procedures) are described. Beliefs and attitudes of individuals and constituencies within the organisation are described).

Specific Outcome 2: Identify factors influencing attitudes toward HIV and AIDS,
(Range: A theory of the relationship between attitudes and behaviour is outlined. Factors given are analysed with reference to the theory).

Specific Outcome 3: Plan an information session in the workplace on HIV and AIDS,
(Range: Information session is planned on the basis of the descriptions and analyses of attitudes and attitudinal shifts).

Specific Outcome 4: Prepare information session in the workplace on HIV and AIDS,
(Range: Information is accurate and appropriate).

Specific Outcome 5: Offer information session in the workplace on HIV and AIDS.

Specific Outcome 6: Evaluate the information session.

15. Title : Conduct a guided experience with customers

Specific Outcome 1: Carry out the designed and planned guided experience (either designed by themselves or by a third party) and adapting it to unforeseen challenges.
(Range: This means being knowing enough about the region to select alternative sites, provide additional commentary, alternative rest stops, meals, transport etc. Also the ability to foresee possible problems and take action so as to avoid them.

Specific Outcome 2: Apply the principles of interpretation to selected cultural and natural landscapes
(Range: Various habitats, various cultures, interaction between humans and nature. Manage tour expenses according to itinerary and service requirements).

Specific Outcome 3: Apply knowledge of various products as appropriate to the

customer needs.

(Range: Museums, national parks, cities, game lodges, curio vendors, etc).

Specific Outcome 4: Assess customer needs and expectations on a continuous basis in order to enhance the experience.

(Range: Some knowledge of where tourists come from and what might interest them. The ability to assess individual and group interests and adapt the experience accordingly).

Specific Outcome 5: Apply a set of professional ethics and code of conduct to ensure the integrity of the cultural and natural environment and to ensure the integrity of the interpretation thereof.

(Range: Observe the Guiding Code of Conduct; respectfully manage issues of cultural sensitivity; Removal of shoes; no photography; respect for elders. Know and apply environmental sensitivity with respect to laws and regulations. Manage the group in a professional manner).

Specific Outcome 6: Apply a range of presentation techniques appropriate to the audience, context and client profile.

(Range: Formal face-to-face presentation, informal an incidental commentary, as well as communication techniques in a closed or open vehicle).

Specific Outcome 7: Operate on his/her own or as part of a team, but mostly as the leader of the team.

(Range: Interact with drivers, local or specialised guides, restaurant and hotel personnel).

Specific Outcome 8: Ensure the health and safety of customers on the guided experience.

(Range: Dealing with non-routine emergencies; Avoiding circumstances which may lead to personal risk: rough terrain, wet surfaces, use of equipment. Take into account specific medical conditions of members of the group).

Specific Outcome 9: Reflect on the guided experience and on the guide's performance and learning in order to improve future practice and learning.

(Range: Evaluate the success of the guest experience; Evaluate own performance; Report orally on the success or problems of a tour. Suggest changes to enhance the experience. Produce a written report of the tour including expense statement with receipts).

Specific Outcome 10: Pre-complete departure check.

(Range: Check for appropriate documentation such as vouchers, room lists and tickets. Check all elements on itinerary with service providers prior to customer arrival).

16. Title : Design a guided experience for customers

Specific Outcome 1: Research & design a tour framework.

(Range: Make use of existing publications (articles, books, brochures etc) on the selected area and locations. Make use, where relevant, of local oral history and traditions. Scope a tour framework according to the interests and physical limitations of a target client group, theme, duration, price level and benefit to the specific community/ies. The tour should be at least one full day over a number of sites and could involve organising transport, meals, refreshments etc).

Specific Outcome 2: Identify and select specific sites, attractions, activities and service providers.

(Range: Select sites appropriate to the scope of the tour. Conduct research on each site, using appropriate brochures and publicity material, relevant local oral history and traditions, as well as more in-depth published material – sufficient to be able to plan and deliver a competent interpretive talk and answer questions. Be able to discuss the site in the context of wider South African history and cultural traditions).

Specific Outcome 3: Package an appropriate tour

(Range: Plan a route, time schedule, means of transport and itinerary for the tour. Cost the tour. Select and, where required, book appropriate accommodation, restaurants, activities and service providers. Provide commentary on specific sites. Produce a written and printed itinerary for the tour).

Specific Outcome 4: Carry out evaluation procedures and adapt accordingly
(Range: Gather feedback from guides who have conducted the tour. Design and evaluate guide and other questionnaires and evaluation checklists).

17. Title : Interpret guiding for tourists

Specific Outcome 1: Tell the story in a lively, interesting and imaginative way such that the listener can 'live' it.
(Range: Of a place, community, environment, custom or resource).

Specific Outcome 2: Research, plan and present a formal interpretive talk as well as informal and occasional commentary on aspects of landscape, natural and cultural heritage.

(Range: Formal talk should last five –ten minutes. It should provide both background and sufficient detailed information to satisfy tourist interests and answer general questions on the major attractions of the tour. It would always be an advantage if the interpreter could relate the interpretation to similar sites/events in the visitor's own experience. Informal commentary requires a general knowledge of local history and environment so that the guide is able to identify significant features of natural and cultural landscape that the group encounters in passing).

Specific Outcome 3: Demonstrate an understanding that both cultural and natural heritage are not simply 'things to be discovered', but that they

are constructed and given meaning by living communities as they continually develop new ways of seeing themselves and the world around them.

(Range: How different groupings may interpret a site differently and that the significance and meaning changes over time).

Specific Outcome 4: Strive for authenticity and avoid shallow stereotyping – especially in respect of living cultural experiences, such as township tours, theme parks, cultural villages etc, that are constructed as commodities for tourist consumption.
(Range: Requires some understanding as to how South African cultures have been represented in the past by certain groups and how western media, tourist literature etc. may still reinforce these stereotypes).

Specific Outcome 5: Reflect, in their interpretation, the full richness and diversity of the South African experience.
(Range: Present differing views and interpretations wherever relevant. Ensure that the full range of local experience is represented. Interpret the South African experience in a way that reflects different and changing perspectives and respects the dignity and integrity of people).

Specific Outcome 6: Recognise that there are aspects of local heritage that are painful and find ways of presenting the happy and the sad, the proud and the painful, the shared and the disputed.
(Range: The changing and contested perspectives regarding protected areas, national parks and game reserves where these have led to forced removals and alienation from the land. Also historical battle sites and where young people or others relate differently to aspects of local culture).

Specific Outcome 7: Remain sensitive to the requirements, interests and perspectives of culturally diverse tour groups.
(Range: Avoid simple one-sided interpretations that some people might find offensive – but be willing to present diverse views even if there might be intense disagreement).

Specific Outcome 8: Reflect on the interpretation experience and on his/her own performance in order to improve the quality of the guided experience.

18. Title : Operate within the National and International Legal Framework

Specific Outcome 1: Be attentive of contractual obligations.
(Range: The description of a visit or a tour itinerary represents a legal binding contract. Confirmed reservations imply an obligation by the service provider. Itineraries must not be changed without concrete and justifiable reasons. Delivering at least the minimum service sold to the customers must adhere to the contract)

Specific Outcome 2: Act according to health & safety regulations.
(Range: safety regulations in National Parks and Nature Reserves special procedures and regulations pertaining to

adventure activities, rest periods for drivers, medical advice, medication and treatment other than 1st aid can only be provided by qualified medical personnel)

Specific Outcome 3: Act in awareness of legally established customer-client relationships.

(Range: Be aware of customer protection framework in the E.U. and U.S., be familiar with basic content of general conditions pertaining to changes and cancellations, know which incidents are said to constitute an "act of god")

Specific Outcome 4: Respect South African legal restrictions.

(Range: in reference to passenger road transport, criminal law (prostitution, drugs), restricted areas access, indemnity forms)

19. Title : Conduct a guided nature experience

Specific Outcome 1: Identify and place in broad non-technical taxonomical context all common plants and commonly encountered animals in the area of operation, identify and interpret obvious signs and sounds left or made by these animals, and give valid elementary scientific and/or cultural explanations of their features and behavioural patterns.

(Range: Explain the social structure and behaviour of elephants, the outstanding features of commonly encountered insect orders, "anting" behaviour of birds. Identify common spoor, droppings and territorial markings, bird nests, mammal, bird, reptile (crocodile and geckoes) and insect sounds.

Specific Outcome 2: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret their behaviour.

(Range: Territorial behaviour, mating, feeding and teaching of young, interaction between predators, elephant-rhino, etc.

Specific Outcome 3: Point out and interpret obvious and distinctive topographical features of the area of operation, major constellations, planets and other features of the night sky and local weather patterns, and use these for orientation.

(Range: Dolerite dykes, granite hills; thunderstorms, cold fronts; Southern Cross, evening and morning star, red giants)

Specific Outcome 4: Point out and explain human influences on the environment, use them for orientation, and use cultural explanations where appropriate.

(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 5: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment at an elementary scientific level. (Range: Explain the reasons why there are fewer predators than prey organisms, effects of fire on vegetation and animals, the effect of soil on vegetation, insect-plant

interactions)

Specific Outcome 6: Apply basic first aid techniques for situations likely to be encountered outdoors

Specific Outcome 7: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.
(Range: Not allowing littering, carrying cigarette butts with, not shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

20. Title : Conduct a guided cultural experience

Specific Outcome 1: Identify and assess the needs, limitations, interests and expectations of a target group of tourists.
(Range: Different identities and values. Different memories regarding monuments, battle sites. Construct itineraries appropriate to the interests and limitations of the group.)

Specific Outcome 2: Demonstrate a sound knowledge of South African's heritage resources.
(Range: in-depth local knowledge of South Africa's rich and diverse heritage resources, brief international overview)

Specific Outcome 3: Identify and select different sites appropriate to the group within a defined region.
(Range: cultural resources, heritage sites, living cultural experiences)

Specific Outcome 4: Gather information from published and oral sources on the specific sites and the broader local context.
(Range: Survey available tourist literature. Talk to local tour operators and guides. Present at an appropriate level for both general and special interest groups. Access local oral and 'indigenous knowledge' and perspectives. Conduct further 'in-depth' research into specific sites and events using more than just tourist literature)

Specific Outcome 5: Demonstrate awareness of the ways people, their cultures and heritage have been represented in past tourist literature and experiences.
(Range: heritage of the majority of the population was previously written out of public history, trivialisation in natural history museums and displays put on for tourists, heritage and culture are continuously being created and re-created according to changing attitudes, needs and identities).

Specific Outcome 6: Reflect a commitment to authenticity, multiple perspectives on events, people and places, avoid simple stereotyping and respect the integrity of the resources and/or host communities.
(Range: heritage sites (e.g. monuments, battle sites, etc) can be places where different memories can feel respected, people with different identities and values can find common ground)

Specific Outcome 7: Reflect on the interpretation experience and on his/her own performance in order to improve the quality of the guided experience.

21. Title : Track animals and identify spoor using moderately difficult spoor

Specific Outcome 1: Accurately identify from clearly defined to obscure spoor of small to large animals (classified as "easy", "moderately difficult" and "very difficult") occurring in the area of operation.
(Range: Mongoose, genet, civet, caracal, impala, elephant, steenbuck, leguaan, ostrich)

Specific Outcome 2: Systematically follow the track of a medium to large animal for at least 30 minutes until it is found under moderately difficult conditions
(Range: Rhino, elephant, lion)

Specific Outcome 3: Interpret behavioural patterns of animals by means of inductive-deductive reasoning from observation of spoor
(Range: Mating, chasing prey, feeding, territorial marking, resting)

Specific Outcome 4: Estimate the age of spoor as fresh enough to follow and find or not.
(Range: Use climatic conditions (rain, wind, etc.), soil type, tracks of other animals to determine age (today, yesterday or older)

Unit standards titles and specific outcomes at NQF level 6

1. Title : View potentially dangerous animals

Specific Outcome 1: Co-ordinate with other guides and/or operators that there will be no disturbance on a trail.
(Range: Ensure no vehicle-bound guides driving into sightings while a trail is in process in the area.)

Specific Outcome 2: Ensure that clients know exactly what is expected of them before coming on trail, while walking and when faced with possible dangerous situations.
(Range: Ensure that neutral clothing is worn, give a pre-trail briefing explaining hand signals that will be used, walk in single file, etc)

Specific Outcome 3: Be in control of the group of clients at all times and in all situations in a firm but friendly way.
(Range: Ensure that clients always listen to instructions without aggravating them)

Specific Outcome 4: Maintain constant all-round awareness to recognise opportunities and avoid any threats to the safety of clients and her/himself, taking into account possible clients' limitations.
(Range: Avoiding thick bush where black rhino or lion may be hiding or reed beds where lone buffalo may be hiding, listening to warning sounds (e.g. lion females communicating with their

cubs, alarm calls of birds), noting single buffalo spoor, letting clients with bright clothing walk behind him/her, reducing pace when unfit clients present)

Specific Outcome 5: Take the necessary precautions when approaching potentially dangerous game to minimise the risk of confrontations and engagements.

(Range: Approach game from downwind except when there is a specific reason not to do so, keep a safe distance, make use of the sun, trees, rocks, etc. to avoid detection, plan possible escape routes, withdraw upon signs of discomfort by the animals)

Specific Outcome 6: Deal efficiently with any unexpected confrontations by dangerous animals.

(Range: Get clients to back off in an orderly and controlled fashion, shoot the animal and kill it with a maximum of two shots if there is absolutely no other alternative)

Specific Outcome 7: Handle his/her firearm in such a way that it is ready when needed without endangering the safety of clients.

(Range: Magazine loaded but no rounds in the chamber except when actually intending to shoot an animal out of necessity, ensuring that clients never have access to rifle, never intentionally or unintentionally pointing the rifle at any person.

Specific Outcome 8: Where a "back-up" participates on the trail, ensure efficient communication with this person to enhance the safety of the group.

(Range: Have pre-arranged communication and emergency procedures)

2. Title : Conduct an advanced guided nature experience

Specific Outcome 1: Identify and place in taxonomical context all common plants and commonly encountered animals in the area of operation, identify and interpret obvious signs and sounds left or made by these animals, and give valid scientific explanations/theories of their features and behavioural patterns

(Range: Explain the social structure and behaviour of elephants, the typical features of commonly encountered insect orders, "anting" behaviour of birds; present theories on bird migration. Identify common spoor, droppings and territorial markings, bird nests, mammal, bird, reptile (crocodile and geckoes) and insect sounds)

Specific Outcome 2: Identify the "flag-ship" species of SA, i.e. elephant, black & white rhino, hippo, lion, leopard, cheetah, wild dog, buffalo, zebra species, wildebeest species, giraffe, and interpret their behaviour.

(Range: Territorial behaviour, mating, feeding and teaching of young, interaction between predators, elephant-rhino, etc)

Specific Outcome 3: Point out and interpret at an elementary scientific level obvious topographical features of the area of operation, major

constellations and their component stars, planets and other features of the night sky and local weather patterns, and use these for orientation.

(Range: The geological evolution of Mpumalanga giving rise to the Mpumalanga Drakensberg, Bushveld igneous complex, dolerite dykes, erosional features; cold and warm fronts; Southern Cross, Taurus, evening and morning star, red giants, Galaxies)

Specific Outcome 4: Point out and explain human influences on the environment, use them for orientation, and use cultural explanations where appropriate.

(Range: Iron age sites, habitat changes because of man, myths and legends, medicinal uses of plants and animals)

Specific Outcome 5: Interpret relative abundance of organisms, interactions between organisms and interactions between living and non-living components of the environment using appropriate scientific theories where necessary.

(Range: Explain the effects of fire on vegetation and animals, soil-vegetation interactions such as catena's, tannin and pheromone secretion of plants and its effects on browsers, insect-plant interactions)

Specific Outcome 6: Apply basic first aid techniques for situations likely to be encountered outdoors.

Specific Outcome 7: Demonstrate the appropriate ethics and precautions associated with guiding in the natural environment.

(Range: Not allowing littering, carrying cigarette butts with, not shining spotlight onto diurnal animals, closing up and locking away food, etc. to prevent baboons from raiding, put out fires when leaving)

3. Title : Track animals and identify spoor using difficult spoor

Specific Outcome 1: Accurately identify from clearly defined to obscure spoor of all small to large animals (classified as "moderately difficult" and "very difficult") occurring in the area of operation, and distinguish between the sexes of larger animals.

(Range: Mud wasps, tortoises, Genet, Civet, caracal, impala, steenbuck, leguaan, tree squirrel.

Specific Outcome 2: Systematically follow the track of a lion or leopard until the animal is found without it being aware of the tracker.

Specific Outcome 3: Interpret behavioural patterns of animals by means of hypothetico-deductive and speculative reasoning from observation of spoor

(Range: Signs of stress, location of carcasses (feeding), mating, chasing prey, feeding, territorial marking.

Specific Outcome 4: Detect the presence of danger through peripheral perception (intuitively "feel" danger before consciously observing signs of danger)

(Range: Intuitively "feel" that a buffalo is waiting behind a bush to charge without having picked this up from the spoor, and avoiding a charge by changing direction.

Specific Outcome 5: Estimate the age of spoor as fresh enough to follow and find or not.

(Range: Use climatic conditions (rain, wind, etc.), soil type, tracks of other animals to determine age (yesterday, today or older).

No. 293

28 March 2001

NATIONAL CERTIFICATE IN TOURISM: EVENT SUPPORT**Field** : Services**Sub-field** : Hospitality, Tourism, Travel, Leisure and Gaming**NQF level** : 4**Credits** : 126**Purpose of the Qualification:**

In the context of the event industry, this qualification will enable creative support to innovative and exciting events. A qualifying learner will be able to contribute positively towards supporting the event industry as a part of Southern Africa's tourism sector.

A learner who has achieved this qualification will be capable of combining a range of self-organisation and life-long learning skills with a working knowledge of South African tourism issues, and integrating these within a context to produce a multi-skilled practice.

In addition they will be positioned to further their learning, practice and career within the events industry - either at further levels or in other areas of practice. Expansion into other sub-sectors of tourism is also possible.

Qualification Matrix

	Level 2		Level 4		Total
Fundamentals	Operate a PC Organise Oneself in the Workplace	6	Plan & Conduct Research	6	59
		3	Analyse & understand Social Issues	4	
			Function in a Team	4	
			Interact Orally & in Writing in the Workplace	10	
			Collate, understand & communicate Workplace data	5	
			Numeracy	13	
			Demonstrate an understanding of societal values & ethics	4	
			Demonstrate an understanding of issues affecting people with special needs	4	
Core	Maintain Occupational Health & Safety	2	Introduce South Africa to Tourists	7	47
			Introduce South African Heritage to Tourists	7	
			Contribute to sustainable tourism in South Africa	4	
			Operate in a business	4	
			Oversee Arrival & departure of customers	3	
			Care for customers	3	
			Contribute to information distribution regarding HIV/AIDS in the workplace	4	
			Understand the inter-relatedness of Event Elements	10	
			Operate in the National & International Event Industry	3	
Elective			Support Event Co-ordination	20	20
TOTAL		11		115	126

UNIT STANDARDS FOR TOURISM: EVENT SUPPORT

Unit Standards at NQF Level 2

1. Title : Operate a Personal Computer System (I.D. 7547)
2. Title : Organise oneself in the workplace
3. Title : Maintain occupational health and safety

Unit Standards at NQF Level 4

1. Title : Plan and conduct research
2. Title : Analyse and understand social issues
3. Title : Function in a team
4. Title : Interact orally and in writing in the workplace
5. Title : Collate, understand and communicate workplace data
6. Title : Demonstrate an understanding of societal values and ethics
7. Title : Demonstrate an understanding of issues affecting people with special needs
8. Title : Introduce South Africa to tourists
9. Title : Introduce South African Heritage to tourists
10. Title : Contribute to sustainable tourism in South Africa
11. Title : Operate in a business
12. Title : Oversee arrival and departure of customers
13. Title : Care for customers
14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace
15. Title : Understand the inter-relatedness of event elements
16. Title : Operate in the National and International event industry
17. Title : Support event co-ordination

Unit standards titles and specific outcomes at NQF level 2

1. Title : Operate a Personal Computer System

Registered Unit Standard (I.D. 7547)

2. Title : Organise oneself in the Workplace

Specific Outcome 1: Maintain personal hygiene, grooming and dress code to project a professional image and enhance the company image.

(Range: Personal cleanliness, body odour, fresh breath, well-manicured hands, trimmed moustache/beard, appropriate hairstyle and tasteful make-up, immaculate uniform/dress)

Specific Outcome 2: Given a range of illness, decide whether to interact with people and follow company procedure when absent due to illness.

(Range: Contagious diseases/virus infections (flu, chicken pox, measles, etc.) Report absence, doctor's certificate, leave forms.

Specific Outcome 3: Evaluate own skills and areas for development on current and likely future work requirements to identify needs for skills development.

Specific Outcome 4: Set measurable, achievable objectives for own skills development, consistent with needs identified and in line with organisation's objectives and policies.

Specific Outcome 5: Prioritise objectives and plan activities to achieve objectives.

Specific Outcome 6: Identify possible unforeseen circumstances to plan alternative action in advance.

(Range: Lack of resources, change in company policy, interruption beyond control)

Specific Outcome 7: Review progress made and reschedule activities at regular intervals to contribute to achievement of planned objectives

3. Title : Maintain Occupational Health and safety

Specific Outcome 1: Follow workplace procedures for hazard identification and risk Control.

(Range: Recognising and reporting hazards in the work area to designated personnel according to workplace procedures. Accurately following workplace procedures and work instructions for controlling risks. Following workplace procedures, within scope of responsibilities and competencies, for dealing with accidents, fires and emergencies)

Specific Outcome 2: Contribute to participative arrangements for the management of occupational health and safety.

(Range: Raising occupational health and safety issues with designated personnel in accordance with workplace procedures and relevant occupational health and safety legislation. Contributing to participative arrangements for occupational health and safety management in the workplace within organisational procedures and scope of responsibilities and competencies)

Unit standards titles and specific outcomes at NQF level 4

1. Title : Plan and Conduct Research

Specific Outcome 1: Plan a research project.

(Range: A focus on investigating the flow of work through which a product or service is delivered, in a customer-supplier analysis.

Specific Outcome 2: Collate data using more than one simple research technique.

(Range: More than one simple research technique (interviews, focus groups).

Specific Outcome 3: Analyse data using more than one simple data analysis technique.

(Range: More than one simple data analysis technique (such as a flow charts and bar diagrams).

Specific Outcome 4: Prepare and present a brief written report on the findings.

(Range: A brief written report (roughly five pages).

Specific Outcome 5: Evaluate the effectiveness and appropriacy of the research techniques and project plan.
(Range: Evaluation should include reflection on the appropriacy and effectiveness of techniques selected).

2. Title : Analyse and Understand Social Issues

Specific Outcome 1: Select a sociological issue for consideration and justify the choice with reference to workplaces within a particular industry.
(Range: Sociological features could include any of the categories used in the Employment Equity Act, the Bill of Rights or drawn from social theory. Justification must include at least an argument as to the relevance of the issue to the industry chosen).

Specific Outcome 2: Examine workplaces in the industry in terms of any key sociological feature.
(Range: Examination requires both an historical and current description).

Specific Outcome 3: Analyse the constitutional, legislative or policy issues impacting on the sociological feature.
(Range: Analysis must include a critical evaluation of the constitutional, legislative or policy requirements).

Specific Outcome 4: Explain the impact on individuals and groups in the workplace.
(Range: Explanation must be justified with reference to actual rather than hypothetical instances).

Specific Outcome 5: Reflect on the implications for themselves.

3. Title : Function in a Team

Specific Outcome 1: Identify the structure and purpose of a limited variety of teams in a limited variety of work places and learning environments.
(Range: Outlining team organisation, working relationships and goals).

Specific Outcome 2: Describe and carry out the roles and responsibilities required to work in a team in the workplace and learning environment.

Specific Outcome 3: Identify factors affecting a team within workplace and learning environment and explain affect with reference to an established theory of the affect of organisations on teamwork.

Specific Outcome 4: Describe the workplace and learning environment organisation and identify its influence on team members and team with reference to an established theory of the influence of social structure on teamwork.

Specific Outcome 5: Review the effectiveness of a team and own participation in the team within the workplace and learning environments.

4. Title : Interact Orally and in Writing in the Workplace

Specific Outcome 1: Respond to simple written communications in the workplace.
(Range: A staff circular).

Specific Outcome 2: Produce simple written communication in the workplace.
(Range: A simple report).

Specific Outcome 3: Produce and respond to simple oral communication in the workplace.
(Range: Offer a short verbal report).

5. Title : Collate, Understand & Communicate Workplace Data

Specific Outcome 1: Read and use a basic scale
(Range: Using a familiar measuring instrument. To determine quantities to the nearest marked number).

Specific Outcome 2: Use basic graphical techniques to understand and communicate information relating to work environment,
(Range: Develop a basic table or graph to capture information in relation to any workplace task. Understand the information presented in the table or graph. Present the information using a table or graph).

6. Title : Demonstrate an understanding of Societal Values & Ethics

Specific Outcome 1: Describe how a democratic society functions and what citizenship means.
(Range: Rights and responsibilities of a government and its citizens. Issues of human rights, social justice and equality).

Specific Outcome 2: Identify the values contained in the South African Constitution and Bill of Rights and the principles which underpin these values.
(Range: Values like human dignity, equality, non-racialism and the universal moral principles on which they are based).

Specific Outcome 3: Describe democracy in the workplace and how it contributes to a more just and equitable society
(Range: Rights and responsibilities of employers and employees in terms of legislation like the Labour Relations Act, the Employment Equity Act, the Basic Conditions of Employment Act, the Skills Development Act)

Specific Outcome 4: Describe why value conflicts and ethical dilemmas arise around particular issues in society and in the workplace
(Range: The duty of government is to regulate the behaviour of citizens, groups, institutions and organisations but such action may at the same time be in conflict with their rights and freedoms so that value conflict arises).

Specific Outcome 5: Analyse such incidents of value conflict in society and suggest ways/approaches for dealing with such dilemmas,
(Range: How to assess the dilemmas that arise when the

interests of different groups or constituencies are in conflict.
Ways of resolving such conflict).

7. Title : Demonstrate an Understanding of issues affecting people with special needs.

Specific Outcome 1: Identify a limited spectrum of physical and intellectual disabilities prevalent in South Africa
(Range: Definition includes naming the disabilities. Definition includes outlining the physical/intellectual, social, psychological and professional implications for people with disability).

Specific Outcome 2: Describe the causes of the physical and intellectual disability
(Range: Causes include the social and economic factors contributing to the disabilities).

Specific Outcome 3: Identify the basic requirements of South African policy and legislation relating to people who have a disability
(Range: Basic requirements refers to summarising the main issues).

Specific Outcome 4: Reflect on own practices in the workplace and identify the underlying values relating to people who have a disability
(Range: Practices in the workplace are described. The challenges presented by working with people who have special needs are identified. Own values and beliefs in relation to these challenges are outlined).

Specific Outcome 5: Describe the implications for working in teams with people who have a disability
(Range: Possible issues and choices are reviewed. Adaptations to work practices are explained).

8. Title : Introduce South Africa to tourists

Specific Outcome 1: Use basic information on South Africa and a local area to enhance a tourist's experience
(Range: Advise tourist on a range of attractions that meets their particular interest. Assist guests to plan their afternoon based on knowledge of local attractions)

Specific Outcome 2: Suggest and recommend alternative arrangements for clients based on changes in information
(Range: Suggest alternative venues or attractions to compensate for closures or cancellations. Suggest supplementary attractions to enhance or alter a tourist itinerary.

Specific Outcome 3: Advise clients on appropriate behaviour based on knowledge of the context
(Range: Protocol at a religious site, personal security advice in a city; not littering or disturbing vegetation in a natural habitat.

Specific Outcome 4: Access sources of information in order to provide a service to clients and keep personal knowledge up-to-date
(Range: Find out about traditional food in a specific area;

phoning the Automobile Association to find out the state of a road; knowing about current cultural events in the area; knowing the basic details about a current national issue. By means of radio, Internet, newspaper, industry publications and talking to people who are "in the know")

9. Title : Introduce South African Heritage

Specific Outcome 1: Demonstrate an understanding of the dynamic processes and agents shaping heritage
(Range: Historical and current political, economic, biophysical social factors, their impact on one another and on different ways of seeing heritage. Factors might include individuals, museums, zoos, natural resources, NGO/Community Based Organisations, the media, schools, funding agencies, etc).

Specific Outcome 2: Recognise types of heritage
(Range: Natural & cultural or tangible & non-tangible).

Specific Outcome 3: Use understanding of heritage to enhance performance
(Range: Enhance sensitivity towards and learn more about others by exploring different heritages. Explore options for using heritage in everyday work).

Specific Outcome 4: Recognise own place in South African Heritage
(Range: Place own family in South African heritage. Explore some of the personal consequences of own cultural inheritance, such as language, religion, class, and gender).

10. Title : Contribute to sustainable tourism in South Africa

Specific Outcome 1: Demonstrate a good understanding of the ethics and values associated with the concept of sustainable tourism
(Range: A range of issues connected with the natural, cultural, and social environment within South Africa. Ways to respond to these issues in a sustainable tourism context. The underlying social, political and cultural influences supporting the concept of sustainability).

Specific Outcome 2: Demonstrate a practical understanding of and sensitivity for dealing with the divergent needs of tourists and host communities.
(Range: Potentially conflicting expectations of tourists and the cultural values of host communities).

Specific Outcome 3: Demonstrate a practical understanding of the different roles, responsibilities, relationships, and expectations of all relevant stakeholders.
(Range: The roles taken by stakeholders in partnership projects. The potential conflicts between the needs of different stakeholders. Methods of ensuring full participation of all stakeholders in sustainable tourism enterprises. The different roles played by stakeholders such as; Government, tourists, entrepreneurs and communities, and the relationships between them).

- Specific Outcome 4: Understand and participate in debates with respect to the enhancement of sustainable tourism.
(Range: Be conversant with the basic issues regarding the protection of the natural, cultural, and social environment).
- Specific Outcome 5: Demonstrate an understanding of approaches to sustainable tourism.
(Range: Community involvement and partnerships. Respect for the integrity and values of communities. Minimising the impacts of tourism on the natural, cultural, and social environment. Knowledge of national and international codes of ethics relating to sustainability. Recognition of the different aspects of sustainable tourism such as commercial and environmental).
- Specific Outcome 6: Apply an understanding of elementary strategies for the conservation of cultural and natural sites.
(Range: Follow the correct procedures and channels to promptly report damage or unusual wear and tear to natural and cultural sites to the relevant authorities. Advise on appropriate behaviour on sites to minimise the impact of visits to sites. Work within their organisation and with communities to develop awareness of appropriate conservation practice).
- Specific Outcome 7: Use opportunities to promote other cultural activities, events and sites.
(Range: Link tourist information with current events on daily basis and advise accordingly).
- Specific Outcome 8: Reflect on own contribution to sustainability of a tourism enterprise or project.
(Range: Develop a clear model of their own place in a commercially, environmentally and culturally sustainable enterprise. Make suggestions regarding improved self-performance and their organisation's performance, in relation to their understanding of sustainability).

11. Title : Operate in a business

- Specific Outcome 1: Describe typical ways that departments in a business are inter-dependant to ensure sustainable profit
(Range: Sales department dependant on marketing department; accounts dependant on administration)
- Specific Outcome 2: Identify and locate the different facilities, departments and services of the organisation
(Range: Conference facilities)
- Specific Outcome 3: Describe products and services provided by the organisation and explain the importance of promoting these
- Specific Outcome 4: Encourage and record feedback received from customers and initiate service improvement
- Specific Outcome 5: Maintain confidentiality of sensitive information and documents

to protect customers and the business
(Range: Passports / ID documents; personal information of customers)

Specific Outcome 6: Understand and operate within given budgets

Specific Outcome 7: Charge customers for services and process credit or cash sales in accordance with the accepted practice

Specific Outcome 8: Issue invoices and receipts if necessary

12. Title : Oversee arrival and departure of customers

Specific Outcome 1: Check customer arrival and departure information and note accurately, with prompt implementation of any action required to deal with alterations required in schedule.
(Range: Preparation (coach, toilets, time)
Documentation (tickets passports)

Specific Outcome 2: Greet customers in a manner, which encourages feelings of goodwill towards the self, the organisation and South Africa in general.
(Range: Establish an individual as well as a group relationship on arrival. Adapt to customer's cultural background)

Specific Outcome 3: Offer customers friendly and efficient assistance to facilitate arrival and departure to enhance their tourist experience.
(Range: Follow the correct procedures for the arrival and departure of customers. Provide information on local area)

Specific Outcome 4: Provide technical information.
(Range: Luggage handling, . Forex opportunities, VAT claim procedures, Malaria, Security and safety points with regards to jewellery, electronics, passports, and traveller's cheques, Tipping)

Specific Outcome 5: Communicate effectively to create solutions for any problems that may arise.

Specific Outcome 6: Reflect on own performance and identify possible areas for self-improvement.

13. Title : Care for customers

Specific Outcome 1: Identify customer needs and expectations, including those with specific needs, correctly and identify appropriate products and services.
(Range: All reasonable needs and requests are met within acceptable time frames)

Specific Outcome 2: Recognise customer dissatisfaction and take action to resolve the situation.
(Range: Complaints are handled promptly, positively, sensitively and politely. Customer complaints are resolved according to individual level of responsibility and enterprise

procedures. Complaints are referred to the appropriate person for follow-up, according to individual level of responsibility)

Specific Outcome 3: Identify and take opportunities to enhance the quality of customer service.
(Range: Check all elements on itinerary with service providers prior to customer arrival. Ensure best possible service levels at all times (no queuing).

Specific Outcome 4: Communicate with all customers in a friendly and courteous manner.

Specific Outcome 5: Reflect on own performance and identify possible areas for self-improvement.

14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace

Specific Outcome 1: Describe attitudes toward HIV and AIDS in the workplace,
(Range: Attitudes of the organisation (as evident in employment policies and practices; education or awareness programmes; or other organisational policies and procedures) are described. Beliefs and attitudes of individuals and constituencies within the organisation are described).

Specific Outcome 2: Identify factors influencing attitudes toward HIV and AIDS,
(Range: A theory of the relationship between attitudes and behaviour is outlined. Factors given are analysed with reference to the theory).

Specific Outcome 3: Plan an information session in the workplace on HIV and AIDS,
(Range: Information session is planned on the basis of the descriptions and analyses of attitudes and attitudinal shifts).

Specific Outcome 4: Prepare information session in the workplace on HIV and AIDS,
(Range: Information is accurate and appropriate).

Specific Outcome 5: Offer information session in the workplace on HIV and AIDS.

Specific Outcome 6: Evaluate the information session.

15. Title : Understand the inter-relatedness of event elements

Specific Outcome 1: Demonstrate a knowledge and understanding of the elements of the events industry.
(Range: Define, analyse and reflect on: Site development and capacity, Dealing with participants, Support Services, Event Safeguards, Event environment, Event activities, Ancillary Services, Documentation.

Specific Outcome 2: Identify, prioritise and suggest appropriate elements necessary for a successful event.
(Range: Match the needs of the client with the capacity requirements of the facility/venue and budgetary constraints. Recognise the impact of the event elements on the success of

the event).

Specific Outcome 3: Suggest and advise clients on appropriate alternatives.
(Range: Changes due to weather, accessibility of facility, etc.
Recognise the importance of quality and attention to detail.

Specific Outcome 4: Identify elements, which are not within the capacity of the facility and outsource.
(Range: Source reputable and experienced support services).

16. Title : Operate in the National and International event industry

Specific Outcome 1: Demonstrate an understanding of the national and international events industry.
(Range: Complexity, intricacies and dynamic nature.
Importance to South African tourism industry. Quality Requirements).

Specific Outcome 2: Identify and explain the different contexts of event management.
(Range: Define and explain the sub-fields: Meetings and conferences, Social life cycle events, Sport and tourism events, Retail events, Hallmark events, Hospitality events, Festivals, Expositions, Civic events).

Specific Outcome 3: Demonstrate a basic understanding of the capacity, constraints and requirements of each context above as it relates to a specific event.
(Range: Appropriately match the event elements and facilities within a specific context. Suggest appropriate alternatives).

Specific Outcome 4: Access sources of information in order to provide a service to clients and keep knowledge up to date:
(Range: Identify appropriate venues, themes, etc. Identify appropriate service providers).

Specific Outcome 5: Use understanding of the events industry to enhance own performance
(Range: Appropriately match the event elements and facilities within a specific context).

17. Title : Support event co-ordination

Specific Outcome 1: Assist in the undertaking of a needs assessment.
(Range: Source information on client profiles, needs and expectations according to an assessment checklist prior to planning. Identify the type of stakeholders within the event sub-field¹ (i.e. donors)

Specific Outcome 2: Assist in the design of an event.
(Range: Create an environment to facilitate the design of an event. Match event elements with the capacity of the facility according to clients needs. Know and understand the specific characteristics of the event sub-field. Requirements.Facility

capacity and constraints.

Specific Outcome 3: Identify the items making up the event plan, appropriate and specific to the event sub-field:

(Range: Assist in setting parameters for an event framework according to client, theme and budget. All preparatory work is completed to execute the event. Interpret and demonstrate an understanding of the critical path of the event. Administration, i.e. invitations, registration, notices, etc is completed appropriately and according to time frames.

Specific Outcome 4: Apply the support tasks as prescribed:

(Range: Interpret and work within a: Work Schedule, Time line, Organisational structure, Budget, Legal requirements.

Specific Outcome 5: Adhere to clear communication procedures:

(Range: Communicate with internal (in-house) and external service providers regarding contributions towards the event. Issues such as accommodation, transport, facilities, menus and refreshments are communicated and arranged with appropriate in-house sections. Issues such as themes, decoration, etc are communicated and arranged with external service providers. Deal with the client in a professional manner.

Specific Outcome 6: Operate on own and as part of a team

(Range: Understand own role within an event within a particular event sub-field.

Specific Outcome 7: Reflect on, measure and evaluate the event and performance in order to improve future practice and learning

(Range: Own performance, Client satisfaction levels, Objectives of the event.

No. 294

28 March 2001

NATIONAL CERTIFICATE IN TOURISM: CAR RENTAL**Field** : Services**Sub-field** : Hospitality, Tourism, Travel, Leisure and Gaming**NQF level** : 4**Credits** : 122**Purpose of the Qualification:**

In the context of the Car Rental industry, this qualification will enable a qualifying learner to operate effectively in the Car Rental System and to interact with other sectors of the Tourism industry. This competence will contribute positively towards supporting economic sustainability of the car rental sector as part of Southern Africa's tourism industry.

A learner who has achieved this qualification will be capable of combining a range of self-organisation and life-long learning skills with a working knowledge of South African tourism issues, and integrating these within a context to produce a multi-skilled practice.

In addition they will be positioned to further their learning, practice and career within the Car Rental industry - either at further levels or in other areas of practice. Expansion into other sub-sectors of tourism is also possible.

Qualification Matrix

	Level 1		Level 2		Level 4		Level 5		Total
Fundamentals			Operate a PC Organise Oneself in the Workplace	6 3	Plan & Conduct Research Analyse & understand Social Issues Function in a Team Interact Orally & in Writing in the Workplace Collate, understand & communicate Workplace data Numeracy Demonstrate an understanding of societal values & ethics Demonstrate an understanding of issues affecting people with special needs	6 4 4 10 5 13 4 4			59
Core			Maintain Occupational Health & Safety	2	Introduce South Africa to Tourists Introduce South African Heritage to Tourists Contribute to sustainable tourism in South Africa Operate in a business Oversee Arrival & departure of customers Care for customers Contribute to information distribution regarding HIV/AIDS in the workplace	7 7 4 4 3 3 4	Operate within the Car Rental System Analyse the Car Rental Industry and links between various travel & tourism sectors	10 5	49
Elective	Prepare a vehicle	2	Advise customers about local information	4			Sell Car Rental Products and services	8	14
TOTAL		2		15		82		23	122

UNIT STANDARDS IN TOURISM: CAR RENTAL**Unit Standard at NQF Level 1**

1. Title : Prepare a vehicle

Unit Standards at NQF Level 2

1. Title : Operate a Personal Computer System (I.D. 7547)
2. Title : Organise oneself in the workplace
3. Title : Maintain occupational health and safety
4. Title : Advise customers about local information

Unit Standards at NQF Level 4

1. Title : Plan and conduct research
2. Title : Analyse and understand social issues
3. Title : Function in a team
4. Title : Interact orally and in writing in the workplace
5. Title : Collate, understand and communicate workplace data
6. Title : Demonstrate an understanding of societal values and ethics
7. Title : Demonstrate an understanding of issues affecting people with special needs
8. Title : Introduce South Africa to tourists
9. Title : Introduce South African heritage to tourists
10. Title : Contribute to sustainable tourism in South Africa
11. Title : Operate in a business
12. Title : Oversee arrival and departure of customers
13. Title : Care for customers
14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace

Unit Standards at NQF level 5

1. Title : Operate within the rental system
2. Title : Analyse the car rental industry and links between various travel and tourism sectors
3. Title : Sell car rental products and services

Unit standards titles and specific outcomes at NQF level 1

1. Title : Prepare a vehicle

Specific Outcome 1: Check vehicle parts, equipment and consumables for correct quantity and quality

(Range: Tyres, spare tyre, radio, air conditioner, fuel consumption, oil and water, mileage. The necessary vehicle safety checks are carried out).

Specific Outcome 2: Clean vehicles

(Range: Correct cleaning equipment and chemicals are used. Follow the standard operating procedures prescribed by company.)

Specific Outcome 3: Record and report on any damages or problems.
(Range: Records of damages are completed accurately.
Relevant information is promptly forwarded to the appropriate person.

Specific Outcome 4: Reflect on own performance and identify possible areas for self-improvement.

Unit standards titles and specific outcomes at NQF level 2

1. Title : Operate a Personal Computer

Registered Unit Standard (I.D. 7547)

2. Title : Organise oneself in the Workplace

Specific Outcome 1: Maintain personal hygiene, grooming and dress code to project a professional image and enhance the company image.
(Range: Personal cleanliness, body odour, fresh breath, well-manicured hands, trimmed moustache/beard, appropriate hairstyle and tasteful make-up, immaculate uniform/dress)

Specific Outcome 2: Given a range of illness, decide whether to interact with people and follow company procedure when absent due to illness.
(Range: Contagious diseases/virus infections (flu, chicken pox, measles, etc.) Report absence, doctor's certificate, leave forms.

Specific Outcome 3: Evaluate own skills and areas for development on current and likely future work requirements to identify needs for skills development.

Specific Outcome 4: Set measurable, achievable objectives for own skills development, consistent with needs identified and in line with organisation's objectives and policies.

Specific Outcome 5: Prioritise objectives and plan activities to achieve objectives.

Specific Outcome 6: Identify possible unforeseen circumstances to plan alternative action in advance.
(Range: Lack of resources, change in company policy, interruption beyond control)

Specific Outcome 7: Review progress made and reschedule activities at regular intervals to contribute to achievement of planned objectives.

3. Title : Maintain Occupational Health and safety

Specific Outcome 1: Follow workplace procedures for hazard identification and risk Control.
(Range: Recognising and reporting hazards in the work area to designated personnel according to workplace procedures.
Accurately following workplace procedures and work instructions for controlling risks. Following workplace procedures, within scope of responsibilities and competencies, for dealing with

accidents, fires and emergencies)

Specific Outcome 2: Contribute to participative arrangements for the management of occupational health and safety.

(Range: Raising occupational health and safety issues with designated personnel in accordance with workplace procedures and relevant occupational health and safety legislation.

Contributing to participative arrangements for occupational health and safety management in the workplace within organisational procedures and scope of responsibilities and competencies)

4. Title : Advise customers about local information

Specific Outcome 1: Source information on major events and tourist attractions in local area.

(Range Make use of the media i.e. radio, newspapers and technology).

Specific Outcome 2: Identify the location of major events of interest in local area.

(Range Convention centres, ICC, Standard Bank Arena).

Specific Outcome 3: Identify the correct routes to and from a destination as required by customers.

(Range Interpret and explain information on a map such as one-way indicators, hospital, schools, hotels, and churches).

Specific Outcome 4: Communicate information that has been sourced to customers.

(Range Tourist attractions, location of hotels, directions to an event, a venue). Point out and explain route to, and location of a destination on a map and give directions to enable the customer to reach the identified area).

Specific Outcome 5: Explain to customers any restrictions on cross-border travel rentals and related conditions.

(Range Can the rented vehicle be taken into another country and if so, what paperwork is required. Insurance and other conditions if allowed to take vehicle into another country.

Specific Outcome 6: Inform customers about safety precautions to be taken when travelling.

(Range: Not to stop in an isolated area, lock doors, speed limit).

Specific Outcome 7: Evaluate actions taken and identify possible areas for self-improvement.

Unit standards titles and specific outcomes at NQF level 4

1. Title : Plan and conduct research

Specific Outcome 1: Plan a research project.

(Range: A focus on investigating the flow of work through which a product or service is delivered, in a customer-supplier analysis.

- Specific Outcome 2: Collate data using more than one simple research technique.
(Range: More than one simple research technique (interviews, focus groups).
- Specific Outcome 3: Analyse data using more than one simple data analysis technique.
(Range: More than one simple data analysis technique (such as a flow charts and bar diagrams).
- Specific Outcome 4: Prepare and present a brief written report on the findings.
(Range: A brief written report (roughly five pages).
- Specific Outcome 5: Evaluate the effectiveness and appropriacy of the research techniques and project plan.
(Range: Evaluation should include reflection on the appropriacy and effectiveness of techniques selected).

2. Title : Analyse and understand social issues

- Specific Outcome 1: Select a sociological issue for consideration and justify the choice with reference to workplaces within a particular industry.
(Range: Sociological features could include any of the categories used in the Employment Equity Act, the Bill of Rights or drawn from social theory. Justification must include at least an argument as to the relevance of the issue to the industry chosen).
- Specific Outcome 2: Examine workplaces in the industry in terms of any key sociological feature.
(Range: Examination requires both an historical and current description).
- Specific Outcome 3: Analyse the constitutional, legislative or policy issues impacting on the sociological feature.
(Range: Analysis must include a critical evaluation of the constitutional, legislative or policy requirements).
- Specific Outcome 4: Explain the impact on individuals and groups in the workplace.
(Range: Explanation must be justified with reference to actual rather than hypothetical instances).
- Specific Outcome 5: Reflect on the implications for themselves.

3. Title : Function in a team

- Specific Outcome 1: Identify the structure and purpose of a limited variety of teams in a limited variety of work places and learning environments.
(Range: Outlining team organisation, working relationships and goals).
- Specific Outcome 2: Describe and carry out the roles and responsibilities required to work in a team in the workplace and learning environment.
- Specific Outcome 3: Identify factors affecting a team within workplace and learning environment and explain affect with reference to an established

theory of the affect of organisations on teamwork.

Specific Outcome 4: Describe the workplace and learning environment organisation and identify its influence on team members and team with reference to an established theory of the influence of social structure on teamwork.

Specific Outcome 5: Review the effectiveness of a team and own participation in the team within the workplace and learning environments.

4. Title : Interact orally and in writing in the workplace

Specific Outcome 1: Respond to simple written communications in the workplace.
(Range: A staff circular).

Specific Outcome 2: Produce simple written communication in the workplace.
(Range A simple report).

Specific Outcome 3: Produce and respond to simple oral communication in the workplace.
(Range: Offer a short verbal report).

5. Title : Collate, understand and communicate workplace data

Specific Outcome 1: Read and use a basic scale
(Range: Using a familiar measuring instrument. To determine quantities to the nearest marked number).

Specific Outcome 2: Use basic graphical techniques to understand and communicate information relating to work environment,
(Range: Develop a basic table or graph to capture information in relation to any workplace task. Understand the information presented in the table or graph. Present the information using a table or graph).

6. Title : Demonstrate an understanding of societal values and ethics

Specific Outcome 1: Describe how a democratic society functions and what citizenship means.
(Range: Rights and responsibilities of a government and its citizens. Issues of human rights, social justice and equality).

Specific Outcome 2: Identify the values contained in the South African Constitution and Bill of Rights and the principles which underpin these values.
(Range: Values like human dignity, equality, non-racialism and the universal moral principles on which they are based).

Specific Outcome 3: Describe democracy in the workplace and how it contributes to a more just and equitable society
(Range: Rights and responsibilities of employers and employees in terms of legislation like the Labour Relations Act, the Employment Equity Act, the Basic Conditions of Employment Act, the Skills Development Act)

Specific Outcome 4: Describe why value conflicts and ethical dilemmas arise around particular issues in society and in the workplace
(Range: The duty of government is to regulate the behaviour of citizens, groups, institutions and organisations but such action may at the same time be in conflict with their rights and freedoms so that value conflict arises).

Specific Outcome 5: Analyse such incidents of value conflict in society and suggest ways/approaches for dealing with such dilemmas,
(Range: How to assess the dilemmas that arise when the interests of different groups or constituencies are in conflict. Ways of resolving such conflict).

7. Title : Demonstrate an understanding of issues affecting people with special needs

Specific Outcome 1: Identify a limited spectrum of physical and intellectual disabilities prevalent in South Africa
(Range: Definition includes naming the disabilities. Definition includes outlining the physical/intellectual, social, psychological and professional implications for people with disability).

Specific Outcome 2: Describe the causes of the physical and intellectual disability
(Range: Causes include the social and economic factors contributing to the disabilities).

Specific Outcome 3: Identify the basic requirements of South African policy and legislation relating to people who have a disability
(Range: Basic requirements refers to summarising the main issues).

Specific Outcome 4: Reflect on own practices in the workplace and identify the underlying values relating to people who have a disability
(Range: Practices in the workplace are described. The challenges presented by working with people who have special needs are identified. Own values and beliefs in relation to these challenges are outlined).

Specific Outcome 5: Describe the implications for working in teams with people who have a disability
(Range: Possible issues and choices are reviewed. Adaptations to work practices are explained).

8. Title : Introduce South Africa to tourists

Specific Outcome 1: Use basic information on South Africa and a local area to enhance a tourist's experience
(Range: Advise tourist on a range of attractions that meets their particular interest. Assist guests to plan their afternoon based on knowledge of local attractions)

Specific Outcome 2: Suggest and recommend alternative arrangements for clients based on changes in information
(Range: Suggest alternative venues or attractions to compensate for closures or cancellations. Suggest

supplementary attractions to enhance or alter a tourist itinerary.

Specific Outcome 3: Advise clients on appropriate behaviour based on knowledge of the context

(Range: Protocol at a religious site, personal security advice in a city; not littering or disturbing vegetation in a natural habitat.

Specific Outcome 4: Access sources of information in order to provide a service to clients and keep personal knowledge up-to-date

(Range: Find out about traditional food in a specific area; phoning the Automobile Association to find out the state of a road; knowing about current cultural events in the area; knowing the basic details about a current national issue. By means of radio, Internet, newspaper, industry publications and talking to people who are "in the know")

9. Title : Introduce South African Heritage

Specific Outcome 1: Demonstrate an understanding of the dynamic processes and agents shaping heritage

(Range: Historical and current political, economic, biophysical social factors, their impact on one another and on different ways of seeing heritage. Factors might include individuals, museums, zoos, natural resources, NGO/Community Based Organisations, the media, schools, funding agencies, etc).

Specific Outcome 2: Recognise types of heritage

(Range: Natural & cultural or tangible & non-tangible.

Specific Outcome 3: Use understanding of heritage to enhance performance

(Range: Enhance sensitivity towards and learn more about others by exploring different heritages. Explore options for using heritage in everyday work).

Specific Outcome 4: Recognise own place in South African Heritage

(Range: Place own family in South African heritage. Explore some of the personal consequences of own cultural inheritance, such as language, religion, class, and gender).

10. Title : Contribute to sustainable tourism in South Africa

Specific Outcome 1: Demonstrate a good understanding of the ethics and values associated with the concept of sustainable tourism

(Range: A range of issues connected with the natural, cultural, and social environment within South Africa. Ways to respond to these issues in a sustainable tourism context. The underlying social, political and cultural influences supporting the concept of sustainability.

Specific Outcome 2: Demonstrate a practical understanding of and sensitivity for dealing with the divergent needs of tourists and host communities.

(Range: Potentially conflicting expectations of tourists and the cultural values of host communities).

Specific Outcome 3: Demonstrate a practical understanding of the different roles, responsibilities, relationships, and expectations of all relevant stakeholders.
(Range: The roles taken by stakeholders in partnership projects. The potential conflicts between the needs of different stakeholders. Methods of ensuring full participation of all stakeholders in sustainable tourism enterprises. The different roles played by stakeholders such as; Government, tourists, entrepreneurs and communities, and the relationships between them).

Specific Outcome 4: Understand and participate in debates with respect to the enhancement of sustainable tourism.
(Range: Be conversant with the basic issues regarding the protection of the natural, cultural, and social environment).

Specific Outcome 5: Demonstrate an understanding of approaches to sustainable tourism.
(Range: Community involvement and partnerships. Respect for the integrity and values of communities. Minimising the impacts of tourism on the natural, cultural, and social environment. Knowledge of national and international codes of ethics relating to sustainability. Recognition of the different aspects of sustainable tourism such as commercial and environmental).

Specific Outcome 6: Apply an understanding of elementary strategies for the conservation of cultural and natural sites.
(Range: Follow the correct procedures and channels to promptly report damage or unusual wear and tear to natural and cultural sites to the relevant authorities. Advise on appropriate behaviour on sites to minimise the impact of visits to sites. Work within their organisation and with communities to develop awareness of appropriate conservation practice).

Specific Outcome 7: Use opportunities to promote other cultural activities, events and sites.
(Range: Link tourist information with current events on daily basis and advise accordingly).

Specific Outcome 8: Reflect on own contribution to sustainability of a tourism enterprise or project.
(Range: Develop a clear model of their own place in a commercially, environmentally and culturally sustainable enterprise. Make suggestions regarding improved self-performance and their organisation's performance, in relation to their understanding of sustainability).

11. Title : Operate in a business

Specific Outcome 1: Describe typical ways that departments in a business are inter-dependant to ensure sustainable profit
(Range: Sales department dependant on marketing department; accounts dependant on administration)

Specific Outcome 2: Identify and locate the different facilities, departments and

services of the organisation
(Range: Conference facilities)

Specific Outcome 3: Describe products and services provided by the organisation and explain the importance of promoting these

Specific Outcome 4: Encourage and record feedback received from customers and initiate service improvement

Specific Outcome 5: Maintain confidentiality of sensitive information and documents to protect customers and the business
(Range: Passports / ID documents; personal information of customers)

Specific Outcome 6: Understand and operate within given budgets

Specific Outcome 7: Charge customers for services and process credit or cash sales in accordance with the accepted practice

Specific Outcome 8: Issue invoices and receipts if necessary

12. Title : Oversee arrival and departure of customers

Specific Outcome 1: Check customer arrival and departure information and note accurately, with prompt implementation of any action required to deal with alterations required in schedule.
(Range: Preparation (coach, toilets, time)
Documentation (tickets passports)

Specific Outcome 2: Greet customers in a manner, which encourages feelings of goodwill towards the self, the organisation and South Africa in general.
(Range: Establish an individual as well as a group relationship on arrival. Adapt to customer's cultural background)

Specific Outcome 3: Offer customers friendly and efficient assistance to facilitate arrival and departure to enhance their tourist experience.
(Range: Follow the correct procedures for the arrival and departure of customers. Provide information on local area)

Specific Outcome 4: Provide technical information.
(Range: Luggage handling, Forex opportunities, VAT claim procedures, Malaria, Security and safety points with regards to jewellery, electronics, passports, and traveller's cheques, Tipping)

Specific Outcome 5: Communicate effectively to create solutions for any problems that may arise.

Specific Outcome 6: Reflect on own performance and identify possible areas for self-improvement.

13. Title : Care for customers

Specific Outcome 1: Identify customer needs and expectations, including those with

specific needs, correctly and identify appropriate products and services.

(Range: All reasonable needs and requests are met within acceptable time frames)

Specific Outcome 2: Recognise customer dissatisfaction and take action to resolve the situation.

(Range: Complaints are handled promptly, positively, sensitively and politely. Customer complaints are resolved according to individual level of responsibility and enterprise procedures. Complaints are referred to the appropriate person for follow-up, according to individual level of responsibility)

Specific Outcome 3: Identify and take opportunities to enhance the quality of customer service.

(Range: Check all elements on itinerary with service providers prior to customer arrival. Ensure best possible service levels at all times (no queuing).

Specific Outcome 4: Communicate with all customers in a friendly and courteous manner.

Specific Outcome 5: Reflect on own performance and identify possible areas for self-improvement.

14. Title : Contribute to information distribution regarding HIV/AIDS in the workplace

Specific Outcome 1: Describe attitudes toward HIV and AIDS in the workplace,
(Range: Attitudes of the organisation (as evident in employment policies and practices; education or awareness programmes; or other organisational policies and procedures) are described. Beliefs and attitudes of individuals and constituencies within the organisation are described).

Specific Outcome 2: Identify factors influencing attitudes toward HIV and AIDS,
(Range: A theory of the relationship between attitudes and behaviour is outlined. Factors given are analysed with reference to the theory).

Specific Outcome 3: Plan an information session in the workplace on HIV and AIDS,
(Range: Information session is planned on the basis of the descriptions and analyses of attitudes and attitudinal shifts).

Specific Outcome 4: Prepare information session in the workplace on HIV and AIDS,
(Range: Information is accurate and appropriate).

Specific Outcome 5: Offer information session in the workplace on HIV and AIDS.

Specific Outcome 6: Evaluate the information session.

Unit standards titles and specific outcomes at NQF level 5

1. Title : Operate within the rental system

- Specific Outcome 1: Identify and meet customer needs
(Range: Type of vehicle, rate charged. Additional charges (airport surcharge, drop-off charge, tourism levy, baby car seat) Vehicle products).
- Specific Outcome 2: Supply customers with required rental information
(Range: Terms & conditions, theft, waiver and other insurance covers, accident & breakdown procedures).
- Specific Outcome 3: Follow correct rental procedures
(Range: Vehicle checkout and return, rental extensions, vehicle change over).
- Specific Outcome 4: Accurately record the rental transactions as prescribed by organisation
(Range: Correct forms. Rental agreement, completion and obtaining required signatures).
- Specific Outcome 5: Deal with unexpected situations
(Range: Reservation system failure. Vehicle shortage, fleet planning failure. Dissatisfied customers).
- Specific Outcome 6: Utilise links between the rental system and the rest of the organisation
(Range: Account queries, database update, and sales links).
- Specific Outcome 7: Evaluate actions taken and identify possible areas for self-improvement
(Range: Correct product queries information, record relevant information).

2. Title : Analyse the car rental industry and links between various travel and tourism sectors

- Specific Outcome 1: Source and correctly utilise the services offered by other providers in the industry.
(Range: Travel agents, tour operators, hotels, tour guides, outsourced driving).
- Specific Outcome 2: Identify allies and competitors in the industry.
(Range: Who are the allies for an organisation? Why are they allied (benefits)?
- Specific Outcome 3: Evaluate actions taken and identify possible areas for self-improvement.

3. Title : Sell car rental products and services

- Specific Outcome 1: Qualify the customer
(Range: Age, driver's licence, potential for regular ongoing and repeat business).
- Specific Outcome 2: Identify and match the products and services to customer needs.

(Range: Rates, car size, rental packages, baby seat, snow chains).

Specific Outcome 3: Dealing with objections and rejections.

Specific Outcome 4: Turn a rental enquiry into a confirmed reservation.

Specific Outcome 5: Complete documentation detailing and confirming the sale.

Specific Outcome 6: Establish level of customer satisfaction on return of vehicle.

No. 295

28 March 2001

NATIONAL CERTIFICATE IN TOURISM: CABIN CREW**Field** : Services**Sub-field** : Hospitality, Tourism, Travel, Leisure and Gaming**NQF level** : 5**Credits** : 158**Purpose of the Qualification:**

In the context of the in-flight industry, this qualification will enable professional service and care to enhance passenger satisfaction and management of the overall safety of the aircraft and of passengers. A qualifying learner will be able to contribute positively towards a professional and safe service to in-flight passengers as a part of Southern Africa's tourism sector.

A learner who has achieved this qualification will be capable of combining a range of self-organisation and life-long learning skills with a working knowledge of South African and tourism issues, and integrating these within a context to produce a multi-skilled practice.

In addition they will be positioned to further their learning, practice and career within the in-flight industry. Expansion into other sub-sectors of tourism is also possible.

Qualification Matrix

	Level 2		Level 3		Level 4		Level 5		Total
Fundamentals	Operate a PC Organise Oneself in the Workplace	6 3					Plan & Conduct a Research project Examine social features as pertaining in the workplace Lead a Team Apply communication skills in the workplace Analyse and communicate workplace data Demonstrate an understanding of professional values & ethics Analyse external factors influencing people who have special needs	6 4 4 10 5 4 4	
Core	Maintain Occupational Health & Safety	2	Communicate cabin layout & In-flight facilities & services to passengers	1	Introduce South Africa to Tourists Introduce South African Heritage to Tourists Contribute to sustainable tourism in South Africa Operate in a business Oversee Arrival & departure of customers Care for customers Contribute to information distribution regarding HIV/AIDS in the workplace Co-ordinate food & bar service	7 7 4 4 3 3 4	Maintain Civil aviation authority regulations & standards	50	85
Elective						7	Maintain aircraft hygiene Maintain passenger care & satisfaction Perform functional administration procedures Sell duty free goods Handle passengers with special needs	2 5 2 6 5	27
TOTAL		11		1		39		107	158

UNIT STANDARDS IN TOURISM: CABIN CREW**Unit Standards at NQF Level 2**

1. Title : Operate a Personal Computer System (I.D.7547)
2. Title : Organise oneself in the workplace
3. Title : Maintain occupational health and safety

Unit Standards at NQF Level 3

1. Title : Communicate cabin layout and in-flight facilities and services to passengers

Unit Standards at NQF Level 4

1. Title : Introduce South Africa to tourists
2. Title : Introduce South African heritage to tourists
3. Title : Contribute to sustainable tourism in South Africa
4. Title : Operate in a business
5. Title : Oversee arrival and departure of customers
6. Title : Care for customers
7. Title : Contribute to information distribution regarding HIV/AIDS in the workplace
8. Title : Co-ordinate food and bar service

Unit Standards at NQF Level 5

1. Title : Plan and conduct a research project
2. Title : Examine social features as pertaining to the workplace
3. Title : Lead a team
4. Title : Apply communication skills in the workplace
5. Title : Analyse and communicate workplace data
6. Title : Demonstrate an understanding of professional values and ethics
7. Title : Analyse external factors influencing people who have special needs
8. Title : Maintain Civil Aviation Authority Regulations and standards
9. Title : Maintain aircraft hygiene
10. Title : Maintain passenger care and satisfaction
11. Title : Perform functional administration procedures
12. Title : Sell duty free goods
13. Title : Handle passengers with special needs

Unit standards titles and specific outcomes at NQF level 2

1. Title : **Operate a Personal Computer System**

Registered Unit Standard (I.D. 7547)

2. Title : **Organise oneself in the Workplace**

Specific Outcome 1: Maintain personal hygiene, grooming and dress code to project a professional image and enhance the company image.
(Range: Personal cleanliness, body odour, fresh breath, well-manicured hands, trimmed moustache/beard, appropriate hairstyle and tasteful make-up, immaculate uniform/dress)

- Specific Outcome 2: Given a range of illness, decide whether to interact with people and follow company procedure when absent due to illness.
(Range: Contagious diseases/virus infections (flu, chicken pox, measles, etc.) Report absence, doctor's certificate, leave forms.
- Specific Outcome 3: Evaluate own skills and areas for development on current and likely future work requirements to identify needs for skills development.
- Specific Outcome 4: Set measurable, achievable objectives for own skills development, consistent with needs identified and in line with organisation's objectives and policies.
- Specific Outcome 5: Prioritise objectives and plan activities to achieve objectives.
- Specific Outcome 6: Identify possible unforeseen circumstances to plan alternative action in advance.
(Range: Lack of resources, change in company policy, interruption beyond control)
- Specific Outcome 7: Review progress made and reschedule activities at regular intervals to contribute to achievement of planned objectives.

3. Title : Maintain Occupational Health and safety

- Specific Outcome 1: Follow workplace procedures for hazard identification and risk Control.
(Range: Recognising and reporting hazards in the work area to designated personnel according to workplace procedures. Accurately following workplace procedures and work instructions for controlling risks. Following workplace procedures, within scope of responsibilities and competencies, for dealing with accidents, fires and emergencies)
- Specific Outcome 2: Contribute to participative arrangements for the management of occupational health and safety.
(Range: Raising occupational health and safety issues with designated personnel in accordance with workplace procedures and relevant occupational health and safety legislation. Contributing to participative arrangements for occupational health and safety management in the workplace within organisational procedures and scope of responsibilities and competencies)

Unit standards titles and specific outcomes at NQF level 3

1. Title : Communicate cabin layout and in-flight facilities and services to passengers

- Specific Outcome 1: Identify and locate the different facilities and services.
(Range: Locate areas such as the toilet according to aircraft type. Locate facilities such as reading lights, air vents, service bells, foot rests).

- Specific Outcome 2: Promote available services to passengers.
(Range: Advise passengers on promotional items. Advise passengers on in-flight services. Provide information on routes flown).
- Specific Outcome 3: Respond to passenger questions by giving correct and appropriate information.
(Range: Advise passengers on code share partners and alliances for your organisation).
- Specific Outcome 4: Apply interpersonal skills and maintain sound interpersonal relations
(Range: Interact with passengers from same or different culture in a friendly and courteous manner).

Unit standards titles and specific outcomes at NQF level 4

1. Title : Introduce South Africa to tourists

- Specific Outcome 1: Use basic information on South Africa and a local area to enhance a tourist's experience
(Range: Advise tourist on a range of attractions that meets their particular interest. Assist guests to plan their afternoon based on knowledge of local attractions)
- Specific Outcome 2: Suggest and recommend alternative arrangements for clients based on changes in information
(Range: Suggest alternative venues or attractions to compensate for closures or cancellations. Suggest supplementary attractions to enhance or alter a tourist itinerary.
- Specific Outcome 3: Advise clients on appropriate behaviour based on knowledge of the context
(Range: Protocol at a religious site, personal security advice in a city; not littering or disturbing vegetation in a natural habitat.
- Specific Outcome 4: Access sources of information in order to provide a service to clients and keep personal knowledge up-to-date
(Range: Find out about traditional food in a specific area; phoning the Automobile Association to find out the state of a road; knowing about current cultural events in the area; knowing the basic details about a current national issue. By means of radio, Internet, newspaper, industry publications and talking to people who are "in the know")

2. Title : Introduce South African Heritage

- Specific Outcome 1: Demonstrate an understanding of the dynamic processes and agents shaping heritage
(Range: Historical and current political, economic, biophysical social factors, their impact on one another and on different ways of seeing heritage. Factors might include individuals, museums, zoos, natural resources, NGO/Community Based Organisations, the media, schools, funding agencies, etc).

Specific Outcome 2: Recognise types of heritage
(Range: Natural & cultural or tangible & non-tangible).

Specific Outcome 3: Use understanding of heritage to enhance performance
(Range: Enhance sensitivity towards and learn more about others by exploring different heritages. Explore options for using heritage in everyday work).

Specific Outcome 4: Recognise own place in South African Heritage
(Range: Place own family in South African heritage. Explore some of the personal consequences of own cultural inheritance, such as language, religion, class, and gender).

3. Title : Contribute to sustainable tourism in South Africa

Specific Outcome 1: Demonstrate a good understanding of the ethics and values associated with the concept of sustainable tourism
(Range: A range of issues connected with the natural, cultural, and social environment within South Africa. Ways to respond to these issues in a sustainable tourism context. The underlying social, political and cultural influences supporting the concept of sustainability).

Specific Outcome 2: Demonstrate a practical understanding of and sensitivity for dealing with the divergent needs of tourists and host communities.
(Range: Potentially conflicting expectations of tourists and the cultural values of host communities).

Specific Outcome 3: Demonstrate a practical understanding of the different roles, responsibilities, relationships, and expectations of all relevant stakeholders.
(Range: The roles taken by stakeholders in partnership projects. The potential conflicts between the needs of different stakeholders. Methods of ensuring full participation of all stakeholders in sustainable tourism enterprises. The different roles played by stakeholders such as; Government, tourists, entrepreneurs and communities, and the relationships between them).

Specific Outcome 4: Understand and participate in debates with respect to the enhancement of sustainable tourism.
(Range: Be conversant with the basic issues regarding the protection of the natural, cultural, and social environment).

Specific Outcome 5: Demonstrate an understanding of approaches to sustainable tourism.
(Range: Community involvement and partnerships. Respect for the integrity and values of communities. Minimising the impacts of tourism on the natural, cultural, and social environment. Knowledge of national and international codes of ethics relating to sustainability. Recognition of the different aspects of sustainable tourism such as commercial and environmental).

Specific Outcome 6: Apply an understanding of elementary strategies for the

conservation of cultural and natural sites.

(Range: Follow the correct procedures and channels to promptly report damage or unusual wear and tear to natural and cultural sites to the relevant authorities. Advise on appropriate behaviour on sites to minimise the impact of visits to sites. Work within their organisation and with communities to develop awareness of appropriate conservation practice).

Specific Outcome 7: Use opportunities to promote other cultural activities, events and sites.

(Range: Link tourist information with current events on daily basis and advise accordingly).

Specific Outcome 8: Reflect on own contribution to sustainability of a tourism enterprise or project.

(Range: Develop a clear model of their own place in a commercially, environmentally and culturally sustainable enterprise. Make suggestions regarding improved self-performance and their organisation's performance, in relation to their understanding of sustainability).

4. Title : Operate in a business

Specific Outcome 1: Describe typical ways that departments in a business are inter-dependant to ensure sustainable profit

(Range: Sales department dependant on marketing department; accounts dependant on administration)

Specific Outcome 2: Identify and locate the different facilities, departments and services of the organisation

(Range: Conference facilities)

Specific Outcome 3: Describe products and services provided by the organisation and explain the importance of promoting these

Specific Outcome 4: Encourage and record feedback received from customers and initiate service improvement

Specific Outcome 5: Maintain confidentiality of sensitive information and documents to protect customers and the business

(Range: Passports / ID documents; personal information of customers)

Specific Outcome 6: Understand and operate within given budgets

Specific Outcome 7: Charge customers for services and process credit or cash sales in accordance with the accepted practice

Specific Outcome 8: Issue invoices and receipts if necessary

5. Title : Oversee arrival and departure of customers

Specific Outcome 1: Check customer arrival and departure information and note accurately, with prompt implementation of any action required to deal with alterations required in schedule.

(Range: Preparation (coach, toilets, time)
Documentation (tickets passports)

Specific Outcome 2: Greet customers in a manner, which encourages feelings of goodwill towards the self, the organisation and South Africa in general.
(Range: Establish an individual as well as a group relationship on arrival. Adapt to customer's cultural background)

Specific Outcome 3: Offer customers friendly and efficient assistance to facilitate arrival and departure to enhance their tourist experience.
(Range: Follow the correct procedures for the arrival and departure of customers. Provide information on local area)

Specific Outcome 4: Provide technical information.
(Range: Luggage handling, Forex opportunities, VAT claim procedures, Malaria, Security and safety points with regards to jewellery, electronics, passports, and traveller's cheques, Tipping)

Specific Outcome 5: Communicate effectively to create solutions for any problems that may arise.

Specific Outcome 6: Reflect on own performance and identify possible areas for self-improvement.

6. Title : Care for customers

Specific Outcome 1: Identify customer needs and expectations, including those with specific needs, correctly and identify appropriate products and services.
(Range: All reasonable needs and requests are met within acceptable time frames)

Specific Outcome 2: Recognise customer dissatisfaction and take action to resolve the situation.
(Range: Complaints are handled promptly, positively, sensitively and politely. Customer complaints are resolved according to individual level of responsibility and enterprise procedures. Complaints are referred to the appropriate person for follow-up, according to individual level of responsibility)

Specific Outcome 3: Identify and take opportunities to enhance the quality of customer service.
(Range: Check all elements on itinerary with service providers prior to customer arrival. Ensure best possible service levels at all times (no queuing).

Specific Outcome 4: Communicate with all customers in a friendly and courteous manner.

Specific Outcome 5: Reflect on own performance and identify possible areas for self-improvement.

7. Title : Contribute to information distribution regarding HIV/AIDS in the

workplace

- Specific Outcome 1: Describe attitudes toward HIV and AIDS in the workplace,
(Range: Attitudes of the organisation (as evident in employment policies and practices; education or awareness programmes; or other organisational policies and procedures) are described. Beliefs and attitudes of individuals and constituencies within the organisation are described).
- Specific Outcome 2: Identify factors influencing attitudes toward HIV and AIDS,
(Range: A theory of the relationship between attitudes and behaviour is outlined. Factors given are analysed with reference to the theory).
- Specific Outcome 3: Plan an information session in the workplace on HIV and AIDS,
(Range: Information session is planned on the basis of the descriptions and analyses of attitudes and attitudinal shifts).
- Specific Outcome 4: Prepare information session in the workplace on HIV and AIDS,
(Range: Information is accurate and appropriate).
- Specific Outcome 5: Offer information session in the workplace on HIV and AIDS.
- Specific Outcome 6: Evaluate the information session.

8. Title : Co-ordinate food and bar service

- Specific Outcome 1: Check equipment and stock according to organisation's standards
(Range: Locate and check galley and bar equipment and their functionality according to standard operating procedures. Locate and check catering equipment according to standard operating procedures. Check and ensure that sufficient catering and bar stock is available for service according to passenger list).
- Specific Outcome 2: Prepare catering equipment to deliver food and bar service according to standard operating procedures
(Range: Prepare service areas, appropriate equipment and supplies to be able to conduct the service, Explain the importance of maintaining food and beverage at the correct and constant temperature before and during the service [impossible to maintain catering (which is the act of providing food and beverage) at a temperature!] Demonstrate the ability to prioritise and organise work in an efficient manner).
- Specific Outcome 3: Deliver service according to standard operating procedures
(Range: Serve meals according to standard operating procedures. Clear the cabin continuously according to standard operating procedures).
- Specific Outcome 4: Stow used equipment in correct storages
- Specific Outcome 5: Attend to all customer's needs according to standard operating procedures

(Range: Deal with customers in a polite and friendly manner at all times. Identify and correctly serve customers orders as per standard operating procedures. Deal promptly with all customers queries. Make a decision given a range of problems (Range :- equipment failure; availability of products; quality of products; customer problems)

Specific Outcome 6: Reflect on and evaluate own performance

(Range: Suggest possible improvements to customer service and explain reasons for suggestions).

Unit standards titles and specific outcomes at NQF level 5

1. Title : Plan and conduct a research project

Specific Outcome 1: Plan a research project.

(Range: A focus on investigating the implications of a customer-supplier analysis for the quality policies and systems of the workplace).

Specific Outcome 2: Collate data using a limited variety of research techniques.

(Range: At least two alternative approaches to research. A limited variety of research techniques, including document review and literature search).

Specific Outcome 3: Analyse data using more than a limited variety of data analysis techniques.

(Range: A limited variety of data analysis techniques).

Specific Outcome 4: Prepare and present a brief written report on the project.

(Range: A brief written report (roughly ten pages)).

Specific Outcome 5: Evaluate factors that affect the possibilities for research within the workplace.

(Range: Evaluation should include reflection on the factors affecting the possibilities for research in the workplace).

2. Title : Examine social features as pertaining to the workplace

Specific Outcome 1: Select a sociological issue for consideration and justify the choice with reference to South African workplaces.

(Range: Sociological features could include any of the categories used in the Employment Equity Act, the Bill of Rights or drawn from social theory. Justification must include at least an argument as to the relevance of the issue to South African workplaces).

Specific Outcome 2: Analyse South African workplaces in terms of any key sociological feature.

(Range: Analysis requires a description and explanation of both current and historical patterns).

Specific Outcome 3: Analyse the constitutional, legislative or policy issues impacting on the sociological feature.

(Range: Analysis must include a critical evaluation of the constitutional, legislative or policy requirements).

Specific Outcome 4: Explain the impact on individuals and groups in the workplace.

(Range: Explanation must be justified with reference to actual rather than hypothetical instances).

Specific Outcome 5: Reflect on the implications for themselves.

3. Title : Lead a team

Specific Outcome 1: Identify the structure and purpose of a wide range of teams across a wide range of workplaces and learning environments.

(Range: Structure includes team organisation, working dynamics and culture).

Specific Outcome 2: Lead a team in planning and carrying out the roles and responsibilities required to work in a team in the workplace and learning environment.

Specific Outcome 3: Evaluate two theories in terms of their ability to describe and explain factors affecting particular teams.

Specific Outcome 4: Evaluate two theories in terms of their ability to describe and explain the influence of organisational structure on team members and teams.

Specific Outcome 5: Lead a team in reviewing the effectiveness of the team and the individuals participation in the team within workplace and learning environments.

4. Title : Apply communication skills in the workplace

Specific Outcome 1: Interpret and respond to accessible written communications in the workplace.

(Range: A normal office memorandum).

Specific Outcome 2: Produce simple written communication in the workplace.

(Range: A report on work done, accidents in the workplace, respond to requests and complaints).

Specific Outcome 3: Produce and respond to accessible oral communication in the workplace.

(Range: Offer a five-minute presentation. Listen to and summarise a ten-minute presentation).

5. Title : Analyse and communicate workplace data

Specific Outcome 1: Select appropriate forms of tables, graphs, diagrams and charts to capture information relevant to a variety of workplace functions

Specific Outcome 2: Develop the tables, graphs, diagrams and charts.

Specific Outcome 3: Analyse the information to draw relevant conclusions.

Specific Outcome 4: Present information using tables, graphs, diagrams and charts.

6. Title : Demonstrate an understanding of professional values and ethics

Specific Outcome 1: Describe and reflect on what professional values are and where they come from,
(Range: What it means to be professional. Professional values and their origins).

Specific Outcome 2: Describe professional accountability,
(Range: Knowledge and expertise. A trust relationship with clients/communities. A service ethic. Collective responsibility for standards. On-going learning and upgrading).

Specific Outcome 3: Position professional values within an organisational context,
(Range: Identify different relationships of trust that exist in the workplace. Identify constraints on professionalism).

Specific Outcome 4: Describe why value conflict occur in the workplace,
(Range: Different client and organisational demands that give rise to conflict in the workplace environment).

Specific Outcome 5: Analyse cases of value conflict in the workplace and suggest ways of dealing with them,
(Range: Identify differences in values in at least one instance of interaction in a workplace or service environment. Describe how the conflict was handled and describe an alternative with reference to underpinning values).

7. Title : Analyse external factors influencing people who have special needs

Specific Outcome 1: A wide spectrum of physical and intellectual disabilities prevalent in South Africa are identified
(Range: Definition includes naming the disabilities.
Definition includes outlining the physical/intellectual, social, psychological and professional implications for people with disability).

Specific Outcome 2: Describe the causes of the physical and intellectual disability
(Range: Causes include the social and economic factors contributing to the prevalence of the disability in South Africa).

Specific Outcome 3: Identify the philosophy underpinning South African policy and legislation relating to people who have a disability
(Range: The philosophy refers to the underlying values and principles. Reflect on typical practices in South African workplaces and identify the underlying values relating to people who have a disability
(Range: Practices in the workplace are described. The challenges presented by working with workers who have

special needs are identified. Own values and beliefs in relation to these challenges are outlined).

Specific Outcome 4: Describe the implications for management and supervision for dealing with workplaces in which people who have a disability work
(Range: Possible issues and choices are reviewed. Adaptations to management and supervision practices are explained).

8. Title : Maintain Civil Aviation Authority Regulations and standards

Specific Outcome 1: Demonstrate and apply knowledge of regulations pertaining to aviation safety procedures
(Range: Basic theory of flight, Aviation regulations).

Specific Outcome 2: Correctly identify potential aviation safety hazards
(Range: Dangerous goods and quantities of potentially dangerous goods. Use of electronic equipment in the cabin without permission of the captain).

Specific Outcome 3: Assess safety and emergency hazards
(Range: Unusual situation : terrorism and related security, unruly passenger handling, air rage and passenger safety briefings).

Specific Outcome 4: Apply corrective procedures to address a potentially dangerous situation that may be arising.
(Range: Types and use of emergency equipment. In-flight fire/smoke procedures, ditching, emergency evacuations (land), In-flight first aid and automated external defibrillation, decompression, high altitude physiology and its effects).

Specific Outcome 5: Follow the appropriate reporting and feedback systems
(Range: Demonstrate knowledge and understanding of the flight and own duties. Types of emergencies and accident review procedures).

Specific Outcome 6: Reflect on performance and suggest improvements if necessary
(Range: Human factors and crew decision making).

9. Title : Maintain aircraft hygiene

Specific Outcome 1: Identify areas which could compromise the health of the aircraft occupants.
(Range: Galley and cabin areas, toilet. Environmental factors).

Specific Outcome 2: Correctly identify sources of unhygienic conditions on board the aircraft.
(Range: Blocked drains. Dirty ovens due to spillage. Contaminated equipment (trolleys, coffee and teapots, etc.) Oxygen / air flow outlets).

Specific Outcome 3: Assess a situation and implement corrective measures to prevent a recurrence of the condition.
(Range: Flying into high-risk areas. Blocked toilets, etc).

Specific Outcome 4: Implement methods of controlling the spread of unhygienic conditions.
(Range: Disinfectant sprays for the general cleanliness of the aircraft (toilets, galleys, equipment, etc).

Specific Outcome 5: Evaluate methods of controlling unhygienic conditions.
(Range: Exercise quality control checks).

Specific Outcome 6: Record and report unhygienic conditions.
(Range: Entries in cabin defect log-book. Flight reports.
All relevant information is recorded).

10. Title : Maintain passenger care and satisfaction

Specific Outcome 1: Welcome, receive and seat passengers and guide them to stow hand luggage.
(Range: Passengers are seated correctly. Components of tickets are accurately interpreted. Luggage is placed in appropriate locations).

Specific Outcome 2: Identify Passenger needs and expectations, including those with specific needs, correctly and respond appropriately.
(Range: Passengers are comfortable and satisfied. Correct verbal and non-verbal communication is used. Basic rules of etiquette are applied).

Specific Outcome 3: Use Public Address system for announcements and to convey safety and general information to passengers.
(Range: Pre-flight briefing. Emergency briefings. Correct information is given to passengers at the appropriate time.

Specific Outcome 4: Information on passenger and cargo manifests is correctly interpreted.

Specific Outcome 5: Apply weight and balance procedures. [this should be reworded as weight and balance usually applies to the hold]
(Range: Seating arrangements. [is this applicable as passengers have already been allocated seats before boarding]

Specific Outcome 6: Observe passenger behaviour, identify signs of discomfort or distress correctly and act appropriately.
(Range: Air rage is responded to appropriately. Implications of non-adherence are correctly identified. Fear, illness, air sickness.

Specific Outcome 7: Apply interpersonal skills and maintain sound interpersonal relations.
(Range: Interact with passengers from same or different culture in a friendly and courteous manner).

11. Title : Perform functional administration procedures

Specific Outcome 1: Complete pre-flight administrative duties according to the organisation's standard operating procedure.

(Range: Sign on for scheduled duty according to organisation's standard operating procedure, Check in luggage and declare all items according to customs regulations)

Specific Outcome 2: Complete in-flight administrative duties to the organisation's standard operating procedure.

(Range: Locate and demonstrate an understanding of the purpose and complete technical defects log-backs. Complete personal customs declarations as required by the various destinations served by the organisation's carriers).

Specific Outcome 3: Complete post flight administrative duties according to the organisation's standard operating procedure.

(Range: Sign off for scheduled duty. Check the organisation's communication correspondence and duty roster and observe rules and regulations and perform according to the organisation's policies and procedures).

Specific Outcome 4: Perform general job related administrative duties.

(Range: Complete flight logbook according to Civil Aviation Authority regulations. Ensure validity of own travel documents and update prior to expiry date).

Specific Outcome 5: Use information reflected in logbooks, forms, flight records to reflect on own achievement and enhance future performance.

12. Title : Sell duty free goods

Specific Outcome 1: Plan and prepare for the sale of duty free goods according to organisation's standard operations procedure.

(Range: Goods are arranged, displayed and organised in a neat and attractive way).

Specific Outcome 2: Advise customers when sale will take place, the products available & other buying opportunities.

(Range: Sound customer relations are maintained.

Customer is provided with correct price and product and currencies are converted as required and requested

Range of products: fragrances, cigarettes, alcohol, jewellery and miscellaneous items).

Specific Outcome 3: Sell duty free goods according to the organisation's standard operations procedure.

(Range: Correct information is provided in response to customer queries. Adhere to customs and excise requirements and advise customers according to destination requirements. Currency is correctly calculated. Adhere to requirements of the organisations recording systems (procedures) e.g. balancing cash/travellers cheques received, credit card charge forms etc).

Specific Outcome 4: Complete relevant documents

(Range: Required information is accurately recorded on specified documentation. (stock control sheets, customs declarations) Appropriate procedures have been applied. Report on duty free transactions. Submit documentation to

relevant person / department according to organisation's standard operations procedure.

Specific Outcome 5: Evaluate efficiency and effectiveness of own performance.
(Range: Lessons learned are identified and built in plans for future sales).

13. Title : Handle passengers with special needs

Specific Outcome 1: Welcome, receive and seat special attention passengers and/or Medically Compromised Passengers and assist them with stowage of luggage.
(Range: Special Attention Passengers and/or Medically Compromised Passengers are seated correctly. Components of tickets are accurately interpreted. Luggage is placed in appropriate locations).

Specific Outcome 2: Correctly identify and appropriately respond to the needs and expectations of Special Attention Passengers and/or Medically Compromised Passengers.
(Range: Special Attention Passengers and/or Medically Compromised Passengers are comfortable and satisfied. Correct verbal and non-verbal communication is used. Basic rules of etiquette are applied. Location of service animals. Brace position, read/brief safety card, oxygen masks, seatbelts, call bell, airvents, reading lights, toilet location).

Specific Outcome 3: Conduct individual briefings on safety and general issues.
(Range: Pre-flight briefing. Emergency briefings. Correct information is given to passengers (relevant / timely) Information on passenger and cargo manifests is correctly interpreted).

Specific Outcome 4: Brief other cabin crew regarding Special Attention Passengers and/or Medically Compromised Passengers on board.

Specific Outcome 5: Follow disembarkation procedures regarding Special Attention Passengers and/or Medically Compromised Passengers.
(Range: Understand and apply Civil Aviation Regulations and Standards pertaining to Special Attention Passengers. Rules pertaining to evacuation).

Specific Outcome 6: Observe behaviour of Special Attention Passengers and/or Medically Compromised Passengers and identify signs of discomfort or distress correctly and act appropriately.
(Range: Air rage is responded to appropriately. Implications of non-adherence are correctly identified. Signs of physical and emotional discomfort).

Specific Outcome 7: Apply interpersonal skills and maintain sound interpersonal relations.
(Range: Interacting with passengers from same or different culture in a friendly and courteous manner).

No. 296

28 March 2001

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

POST GRADUATE CERTIFICATE IN HIGHER EDUCATION

Registered by NSB 05, Education, Training and Development, publishes the following unit standards-based qualifications for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purposes of the qualifications, and the titles and specific outcomes of the unit standards upon which qualifications are based. The full qualifications and unit standards can be accessed via the SAQA web-site at www.saga.co.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar street, Brooklyn, Pretoria.

Comment on the qualifications and unit standards should reach SAQA at the address **below and no later than Monday 23 April 2001**. All correspondence should be marked **Standards Setting – SGB for Higher Education and Training** and addressed to

The Director: Standard Setting and Development

SAQA

Attention: Mrs S. Vasuthevan

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 346 5812



PP **SAMUEL B.A. ISAACS**
EXECUTIVE OFFICER

Post Graduate Certificate in Higher Education (PGCHE)

Field: Education, Training and Development

Sub-Field: Higher Education

NQF Level: NQF Level 7

Credits: 120 credits

Purpose of Qualification

The PGCHE is a post-graduate qualification intended to provide professional accreditation for Education, Training and Development practitioners in Higher Education. It will equip such practitioners to fulfil a variety of roles/obligations as educators in Higher Education and Training. This will enhance the experience of learners in Higher Education institutions and enable such learners to have greater chances of success. It is directed at persons with Higher Education teaching experience and persons wishing to specialise in Higher Education as a field of study. The target group therefore includes in-service academic staff at Higher Education institutions and academic staff registered for Higher Education learnerships in terms of the Skills Development Act.

Qualification Matrix

	Level 6		Level 7				Total
Fundamental							
Core			1. Analyse, Mediate and Facilitate Learning in Higher education and training 2. Mediate and Facilitate Learning in Higher education and training 3. Mentor and advise learners in Higher education and training 4. Design, Develop and Implement assessment of learning in Higher education and training	5 20 15 20	5. Interpret and Design learning programmes and modules for Higher education and training 6. Manage learning facilitation in Higher education and training 7. Conduct action research into higher education and training	20 10 10	100
Elective	Moderate Assessment (I.D. 7977)	10	1. Manage a Higher education and training learning programme 2. Design and Develop Web-based Learning	15 10	3. Design and structure experiential learning in a workplace 4. Supervise research in Higher education and training	10 10	55
Total		10				145	155

UNIT STANDARDS IN THE POST GRADUATE CERTIFICATE IN HIGHER EDUCATION

Unit Standards at NQF Level 6

- Title: Moderate Assessment (I.D.7977)

Unit Standards at NQF Level 7

- Title: Analyse Higher Education and Training Mission, Context and Legislation
- Title: Design, Develop and Implement Assessment of Learning in Higher Education and Training
- Title: Mediate and Facilitate Learning in Higher Education and Training
- Title: Mentor and Advise Learners in Higher Education and Training
- Title: Conduct Action Research into Higher Education and Training Practice
- Title: Interpret and Design Learning Programmes and Modules for Higher Education and Training
- Title: Manage Learning Facilitation in Higher Education and Training
- Title: Manage a Higher Education and Training Learning Programme
- Title: Design and Develop Web-Based Learning
- Title: Design and Structure Experiential Learning in a Workplace
- Title: Supervise Research in Higher Education and Training

Unit standards titles and specific outcomes at NQF Level 7

1. Title : Analyse Higher Education and Training Mission, Contexts and Legislation

- Specific Outcome 1: Critically analyse and evaluate own practice against the mission of higher education and training.
- Specific Outcome 2: Critically analyse and evaluate the implications of the different higher education and training contexts for own practice.
- Specific Outcome 3: Critically analyse and evaluate the implications of legislation for own practice in higher education and training.

2. Title : Design, Develop and Implement Assessment of Learning in Higher Education and Training

- Specific Outcome 1: Determine purpose of assessment and articulate competencies to be assessed.
- Specific Outcome 2: Determine assessment strategy and plan assessment activities.
- Specific Outcome 3: Interact with moderator(s).
- Specific Outcome 4: Implement assessment.
- Specific Outcome 5: Evaluate and judge evidence.
- Specific Outcome 6: Record and report assessment.
- Specific Outcome 7: Provide feedback to candidates.

3. Title : Mediate and Facilitate Learning in Higher Education and Training

- Specific Outcome 1: Use language to mediate and facilitate learning.
- Specific Outcome 2: Mediate and facilitate the initiation of learners into HET discourses and practices.
- Specific Outcome 3: Mediate and facilitate learning through the selection and use of multiple resources in an integrated learning environment.

Specific Outcome 4: Mediate and facilitate the integration of knowledge produced through formal, informal and non-formal learning.

Specific Outcome 5: Evaluate the mediation and facilitation process.

4. Title : Mentor and Advise Learners in Higher Education and Training

Specific Outcome 1: Facilitate the holistic development of learners.

Specific Outcome 2: Promote the learners' sense of responsibility towards Society.

Specific Outcome 3: Advise learners with respect to the development of their strategies of learning and occupational interest.

Specific Outcome 4: Refer learners to appropriate counselling services.

Specific Outcome 5: Evaluate own practice when mentoring and advising Learners.

5. Title : Conduct Action Research into Higher Education and Training Practice

Specific Outcome 1: Identify the research problem.

Specific Outcome 2: Refine the research problem.

Specific Outcome 3: Select an intervention strategy.

Specific Outcome 4: Plan and implement the intervention.

Specific Outcome 5: Observe and evaluate the effects of the intervention.

Specific Outcome 6: Interpret data, establish findings and re-plan.

6. Title : Interpret and Design Learning Programmes and Modules for Higher Education and Training

Specific Outcome 1: Conduct a situational analysis and synthesise information.

Specific Outcome 2: Develop a learning programme.

Specific Outcome 3: Evaluate the design of a learning programme.

Specific Outcome 4: Analyse the specific learning programme.

Specific Outcome 5: Select appropriate strategies for the module with relevance to the learning programme(s).

7. Title : Manage Learning Facilitation in Higher Education and Training

Specific Outcome 1: Plan and organise learning facilitation for a defined HET context.

Specific Outcome 2: Integrate educator roles and align with responsibilities.

Specific Outcome 3: Identify, implement, evaluate and review quality management controls.

8. Title : Manage a Higher Education and Training Learning Programme

Specific Outcome 1: Develop strategies to disseminate a learning programme in an institution and/or inter-institutionally.

Specific Outcome 2: Develop strategies for marketing a learning programme.

Specific Outcome 3: Develop strategies for implementing a learning programme.

Specific Outcome 4: Evaluate a learning programme.

Specific Outcome 5: Develop strategies for managing programme development by integrating dissemination, implementation and evaluation.

9. Title : Design and Develop Web-Based Learning

- Specific Outcome 1: Investigate and evaluate WBL as a delivery mode.
- Specific Outcome 2: Design and develop web-based learning content.
- Specific Outcome 3: Select and utilise Learning Management Systems.
- Specific Outcome 4: Evaluate processes and products of WBL.
- Specific Outcome 5: Reflect on opportunities and limitations for WBL by doing a WBL SWOT analyses.

10. Title : Design and Structure Experiential Learning in a Workplace

- Specific Outcome 1: Analyse the outcomes specified for a learning programme and identify those outcomes that can best be acquired at a workplace.
- Specific Outcome 2: Design and structure an experiential learning event to accommodate the attainment of these outcomes.
- Specific Outcome 3: Collaborate with relevant workplace mentors on the conditions of work, logistics and control mechanisms pertaining to experiential learning, and negotiate values and ethics relevant to experiential learning.
- Specific Outcome 4: Communicate and negotiate details of experiential learning with learners.
- Specific Outcome 5: Integrate experiential learning with teaching and learning inside a classroom and monitor the integration on a continuous basis.

11. Title : Supervise Research in Higher Education and Training

- Specific Outcome 1: Guide learners to understand research as a practice.
 - Specific Outcome 2: Guide learners to identify and plan a research project.
 - Specific Outcome 3: Monitor the quality of the research process and product.
 - Specific Outcome 4: Support learners in research processes.
 - Specific Outcome 5: Evaluate research products and own programme of supervision.
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