GOVERNMENT NOTICE

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

No. 1114 **23 November 2007**

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

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

Information Technology and Computer Sciences

registered by Organising Field 10, Physical, Mathematical, Computer and Life Sciences, publishes the Framework for Information and Communications Technology (ICT) Qualifications for public comment.

This notice contains the 6 Domains that define the whole IT sector, their related sub domains and for each sub-domain; IT Job functions, knowledge areas and competency levels. The full detail of the Framework for each domain and related sub-domain can be accessed via the SAQA web-site at **www.saqa.org.za** as well as the ISETT SETA web-site at **www.isettseta.org.za**. Copies may also be obtained from the Directorate for Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria, and from the ETQA Division at the ISETT SETA offices, 2nd Floor Gallagher House, 19 Richards Drive, Galllagher Estates, Midrand.

Comment on the ICT Qualifications Framework should reach SAQA at the address below and ***no later than 14th December 2007.*** All correspondence should be marked **Standards Setting – ICT Qualifications Framework** and addressed to

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INTRODUCTION:

SAQA in partnership with the ISETT Seta has developed a qualifications framework for the ITC sector that will define all the qualifications requirements and map them to NQF levels. This framework will facilitate qualifications generation across the whole sector. With this framework, learnership development, required to enhance South Africa's Human Resource Capacity in the ICT arena would be easily achievable. The development of the ICT framework had to take into account the following national initiatives, concepts and legislative issues:

- The South African Qualifications Act
- The Skills Development Act
- The Human Resource Development Strategy for South Africa
- The National Skills Development Strategy
- The South African ICT Sector Development Framework (SAITIS) from DTI and
- The ISETT SETA's economic sector skills plan

The scope of the ICT framework mirrors the scope of the ISETT sector as defined in the Government Gazette No 20192 of the 11th June 1999. It recognises that a flexible and well-understood method for continued education relating to ICT is essential, which includes the matching of qualifications to career paths. In addition the qualifications generated with the use of this framework must meet SAQA's requirements for registration on the NQF.

The development of the framework was informed by extensive international research which amongst others included a review of similar systems in use in first world countries such as the United Kingdom and the United States of America. It, however, has been specifically tailored for the South African IT industry, both in terms of the workplace realities and the overarching need for clear learning pathways that will optimise individual learner chances of realising their full potential.

The ITC framework therefore is meant as an enabling tool that will assist learners in choosing and combining appropriate knowledge into recognized qualifications within the ITC sector. The framework consists of all the functions that define the ICT sector as well as the knowledge and skills requirements that would enable these functions.

Thus the ITC framework was born, to achieve not only the specific sector skills needs but to ensure that the NQF objectives as specified in the SAQA Act are met.
What follows is an introduction to the underlying concepts that informed the development of the framework as well as the framework itself.
A more interactive and fuller version is available on the Saqa and Isett SETA web-sites.

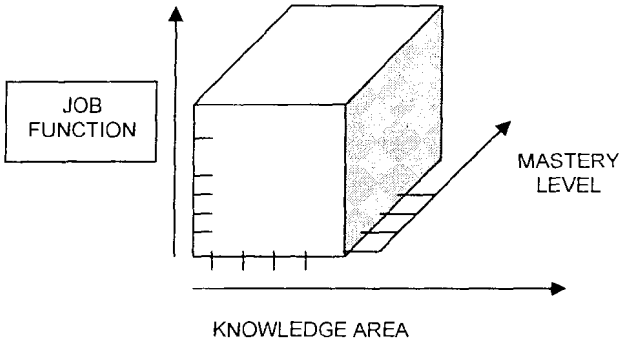
IT QUALIFICATIONS FRAMEWORK TAXONOMY

THE IT QUALIFICATIONS FRAMEWORK (ITQF) TAXONOMY

This is understood to mean the natural relationship between the Position and Role in business and society, the depth of experience and skill required, and the underpinning knowledge areas that an individual requires in order to be competent and qualified.

STRUCTURE OF THE FRAMEWORK

The Taxonomy relationships can be demonstrated in a 3 dimensional matrix.



RELATIONSHIP OF ELEMENTS

Job Functions are relative to the Role in business and society and the functions that must be carried out by an individual.
Mastery Level or Depth of Experience relates to the usefulness and value to an employer.
Knowledge Areas relate to the underpinning comprehension and understanding and therefore the potential of the employee to develop further.

A Knowledge area in the IT Framework consists of Skills and Theory or a combination of both.
A Qualified IT practitioner will have combinations of the above elements.

The Taxonomy of Knowledge should be considered from the two dimensions of the framework structure in the diagram above:

Firstly from the Role and Function dimension of the framework.

Here it is used to describe the high level knowledge and skills the practitioner needs to possess before starting to carry out a particular Role or Function. By definition, these are a summation of the most important knowledge needed for competence in all the tasks that make up the Role.
In this dimension the workplace job description is usually the indicator. The full complement of roles and functions required within an IT job description vary from workplace to workplace. The IT Framework has been designed with enough flexibility to allow custom selection of these elements.

The second dimension is viewed from the underpinning Knowledge Areas required in a learning intervention.

Here the Knowledge Areas and the more specific Knowledge Items are used to describe the learning that will be grouped together to make up the design focus of the Qualification.

This focus or grouping is given a Sub-domain in keeping with the more common understanding of what a competent practitioner needs to know.
The IT Framework flexibility allows for the selection of Knowledge areas as well as the grouping of Knowledge Items.

IT PROFESSIONAL JOB DOMAINS

This is a term increasingly being used by leading institutes and other providers in describing the certification programmes that they are developing. The Gartner Institute is one such institute and has worldwide recognition and an extensive audience in IT sectors.
The Northwest Center for Emerging Technologies (NWCET) in Bellevue Washington, USA has also identified some important IT job roles the USA needs in order to further develop understanding of IT.
It is interesting to note that NWCET in reviewing their standards have identified a need for a more holistic view of the knowledge and capabilities a worker must have. To achieve success in a particular job or role standards should cover business, technical and interpersonal knowledge, with the associated skill requirements.
The NWCET findings are paralleled here in SA with the NQF standards and the documented requirements for knowledge within NQF Qualifications.
The ITQF caters for the above in a SA context.
Learning is covered in 3 major Knowledge Areas; covering Behavioural, Technical and Other IT related subjects.
The NQF also calls for critical cross-field outcomes.
The ITQ Framework is able to relate to Behavioural Knowledge. The behavioural knowledge item satisfies the NQF requirement in the Qualification design, and the knowledge classification structure built into the Framework, further defines the detail. This will help in the development of specific outcomes within Qualification and the associated assessment criteria.

To summarise: The interrelation between the first dimension (Role/ Function) and the second (Knowledge Area) of the IT Qualifications Framework (ITQF) (see Diagram); provide an intersection on the framework for the development of Specific outcomes which in turn will develop into Unit Standards. The Knowledge Areas satisfy the needs for identifying the ***Qualification Standards.***

The third dimension relates to the depth of knowledge and defines the scope for setting assessment criteria across different levels.

The field of ICT has been developing over a number of years. There are now distinct identifiable knowledge domains being used in the industry.

The IT framework has incorporated the IT domain names as recorded and being used by the Computer and Information Technology sub field in SAQA's Organizing Field 10, National Standards Body 10 and the IT and computer science Standards Generating Body.
A comparison of the Knowledge Domain names used between various groups in the industry is discussed elsewhere in this document.

The Knowledge Domains for IT included in the Framework are as follows:

IT Management and Administration.
IT Sales and Marketing
IT Systems Development and Implementation.
IT in Business (End User)
IT Strategy and Planning.
IT Systems Support.

Knowledge domains are also used by many workplace enterprises to help identify an employment position. Thus it has been useful to structure the framework using the above names.
Knowledge areas and their generic definitions can be grouped to focus on a specific area within the IT field. Sub categories of Knowledge may also occur in more than one domain.

TECHNICAL KNOWLEDGE DOMAINS

The Technical Knowledge in IT has been split into industry recognised Domain Knowledge areas.

The Technical IT knowledge is required in all IT roles and functions in the workplace. However in many IT roles and functions there is a clear need for cross-field behavioural skills. Using the behavioural knowledge and skills these elements can be identified.

The Domains provide a relationship between the workplace activities and the underpinning knowledge required for performance at a required competency level.

The Job, Role and Function within one of the IT Domains, can be identified as the requirement for the IT Workplace.
The IT Functions relating to the Domains are set out in the ITQF Functional MindMap section of the Framework.

The IT Framework Structure has concentrated on the IT Domains listed in the table below.

TABLE: ITQF DOMAINS

IT QF DOMAINS	DESCRIPTION (all relating to IT)
IT Management and Administration	Management of IT, Contracts, Supply, Projects, Quality, Resource
IT Sales and Marketing	ICT Account development, product and service