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Established in terms of Act 58 of 1995

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 Systems and Technology

Registered by **NSB 10, Physical, Mathematical, Computer and Life Sciences** publishes the following qualification and unit standards for public comment.

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

Comment on the qualification and unit standards should reach SAQA at the address ***below and no later than 12 July 2004.*** All correspondence should be marked **Standards Setting – SGB for Information Systems and Technology** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Information Technology: Systems Development

SAQA QUAL ID	*QUALIFICATION TITLE*	
48872	National Certificate: Information Technology: Systems Development	
SGB NAME	SGB Information Systems and Technology	
ABET BAND	*PROVIDER NAME*	
Undefined		
QUALIFICATION CODE	*QUAL TYPE*	*SUBFIELD*
PHY-5-National Certificate	National Certificate	Information Technology and Computer Sciences
MINIMUM CREDITS	*NQF LEVEL*	*QUALIFICATION CLASS*
168	Level 5	Regular-Unit Stds Based
SAQA DECISION NUMBER	*REGISTRATION START DATE*	*REGISTRATION END DATE*

PURPOSE OF THE QUALIFICATION

The purpose of this qualification is undergraduate entry into the field of systems development, earning credits towards tertiary offerings in the fields of computer studies and computer sciences, and covering basic knowledge needed for further study in the field of Systems Development at Higher Education Levels.

The qualification may be acquired in the traditional way of formal study as well as in the workplace, through learnerships or RPL. Acquiring the qualification through learnerships or RPL, has the potential of addressing the problems of the past, where newly qualified people getting into the industry struggled to get employment, because they were required to have practical experience. The workplace experience can now be gained while acquiring the qualification through the various learnership schemes that are planning to use this qualification.

A qualifying learner at this level will be a well-rounded IT professional building on foundational technical skills acquired at NQF level 4, via the National Certificate in IT Technical Development or equivalent. This qualification is expanding the systems development foundation started at NQF level 4 into specialisation(s) fields within systems development, in one or more of the following disciplines:
> Procedural Programming
> Object Oriented Programming
> Fourth Generation Language Programming
> Web site development
> Multimedia
> Electronic Commerce

The qualification is designed to:

> Provide qualified learners with an undergraduate entry into the field of systems development, earning credits towards tertiary offerings in the fields of Computer Studies or Computer Science
> Prepare qualified learners for initial employment in the computer industry.
> Allow the credits achieved in the National Certificates relating to Information Technology at NQF level 4 to be used as prior learning for this qualification
> Allow many of the listed unit standards to be used in Learnership Schemes in the Information Systems and Technology sector, as well as other sectors where Information Technology is a key requirement.
> Provide a further qualification for people who are pursuing a career in the computer industry, or related fields.

People with this qualification have an understanding of computer industry concepts and/or are able to work in areas of Systems Development with intermediate technical complexity, for example intermediate-level computer programming or web site development. Finally, this qualification has been developed to assist with professionalisation across the Information Technology Sector. It is intended to allow qualified learners to gain membership of registered professional bodies in the ICT industry.

Rationale of the qualification

Similar to the National Certificates in IT at NQF level 4, this qualification has been formulated such that it reflects the workplace-based needs of the Information Technology Industry as expressed by its stakeholders. The input has been used to ensure that the qualification provides the learner with accessibility to be employed within the IT Industry. The qualification may be acquired in the traditional way of formal study as well as in the workplace, either through learnerships or by recognition of prior learning (RPL).

Academically this National Certificate is intended to be an entry-level qualification, at the Higher Education band, in the area of Systems Development. The qualification builds on from the National Certificate in Information Technology: Systems Development at NQF level 4, and it also facilitates entry into the Systems Development field from other related fields. It aims to enhance readiness for further study in Information Technology and related fields at the Higher Education level, as well as providing for initial employment in the computer industry.

One of the most important needs for this qualification is to provide for RPL. There are currently no unit standards based registered qualifications for Software Development at the higher education level. However, programs are written, installed, maintained and upgraded on a daily basis in a number of different industry sectors. Training is currently not provided against nationally recognised qualifications based on unit standards, which this qualification will be addressing. People with workplace experience in the areas covered by this qualification will now be allowed to request assessment and get recognition for prior learning.

The qualification provides the learner with the flexibility to articulate in the IT environment with a wide variety of specialisation options and to articulate within the Telecommunications, Information Technology and Electronic Industries and other industries where IT is a key component, like the Financial Services or Insurance Industries.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that the learner must be competent in skills gained at the further education and training band, with Computer Studies as an advantage, but not a requirement. A learning assumption of this qualification is foundational skills in communication and mathematical literacy as required by NQF level 4 qualifications. Further learning assumed is the ability to use a personal computer competently.

The assumed learning can be acquired in the traditional way of formal study as well as in the workplace. Acquiring the competencies in a workplace (either via formal skills programmes or normal on-the-job training) has the potential of addressing the problems of the past, where formal qualifications were only obtainable by way of formal study.

Recognition of prior learning (RPL)
This qualification may be achieved through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience.
Achieving unit standards through RPL

Any learner wishing to be assessed to achieve credits in respect of any or all of the unit standards specified in this qualification may arrange to do so without having to attend further education or training.
Achieving the qualification through RPL

To achieve the qualification through RPL, the learner must submit him/herself to be assessed against the integrated assessment criteria of this qualification.

QUALIFICATION RULES

Rules of Combination for the qualification

Rules regarding NQF levels of credits
The qualification consists of a minimum of 168 credits and has been designed in accordance with the SAQA rules of combination

Rules regarding Fundamental, Core and Electives
1. All fundamental outcomes are compulsory for this qualification (49 credits)
2. All core outcomes are compulsory (94 credits)
3. A minimum of 25 elective credits needs to be completed out of one of the elective specialisation fields. If a programming specialisation is chosen, then all the unit standards in the chosen fields most be completed together, to be recognised as a specialisation stream.
4. The qualification description will list the fields of specialisation that have been completed (according to the rules of the previous point) on the qualification document.
5. Additional standards from any other SAQA field or sub-field may be added to the listed electives.

EXIT LEVEL OUTCOMES

A learner will be able to:

> Communicate effectively with fellow IT staff & users of information systems
> Understand the role of technology in the business context.
> Demonstrate an understanding of problem solving techniques, and how to apply them in a systems development environment
> Demonstrate an understanding of Systems Development, with all its implications
> Relate business problems and information technology solutions
> Apply the principles of creating computer software

The following exit level outcomes will depend on the specialisation field(s) chosen:

> Carry out, under supervision, a task of reasonable size to demonstrate an understanding of the knowledge, techniques & skills needed in one or more area of majoring/specialisation

In addition to the above, unit standards will be utilised to provide depth of specification of the outcomes ranges and the assessment criteria and processes.

Furthermore, the assessment process should also cover the following generic components:
> Measure the quality of the observed practical performance as well as the theory and underpinning knowledge behind it;
> Use methods that are varied to allow the learner to display thinking and decision making in the demonstration of practical performance;
> Maintain a balance between practical performance and theoretical assessment methods to ensure each is measured in accordance with the level of the qualification; and
> Ensure that the relationship between practical and theoretical is not fixed but varies according to the outcomes being assessed.

Assessment of Critical Cross-field Outcomes

To ensure applicability of Fundamental and Critical Cross-field Outcomes, this should be assessed as part of Core and Elective assessments.

ASSOCIATED ASSESSMENT CRITERIA

In particular, assessors should check that the learner is able to demonstrate an ability to consider a range of options and make decisions, meeting the following criteria:

1. Effective Communication is demonstrated with fellow IT staff & with users of information systems, in the form of written and verbal communication

2. An understanding of different types of computer systems and the use of computer technology in business

is demonstrated, being able to:
> Describe the different computer systems and associated hardware and network configurations
> Describe the staffing and the operations, development and control activities in a modern computing environment > Demonstrate an understanding of the social and economic implications of the use of computers

3. Demonstrated by being able to:
> Applying logical problem solving and error detection techniques
> Demonstrate how search and sort techniques are used in computer programs
> Design computer system inputs and outputs

4. Demonstrated by being able to:
> Demonstrate an understanding of estimating an development unit of work, and the implications of late delivery
> Apply information gathering techniques for computer systems development
> Working effectively as a team member within a development environment, taking part in team activities and understanding different roles within different support teams
> Conduct a technical practitioners meeting
> Conduct oneself professionally in business based on a set of professional ethics and values regarding the Information Technology discipline

5. Demonstrated by:
> Identifying and recommending appropriate IT solutions to business problems

6. Demonstrated by:
> Developing a complete program to meet given business specifications
> Write a computer program using a chosen computer programming language
> Creating database access for a computer application, using structured query language
> Test a computer program against given specifications
> Create documentation for a computer program

7. Demonstrated by:Applying the knowledge of the techniques & skills needed in one or more area of majoring/ specialisation, covering the assessment criteria explained in the unit standards selected in the specialising area.

Integrated Assessment

Development of the competencies may be through a combination of formal and informal learning, self-learning, training programmes and work-based application.
The practical, applied, foundational and reflexive competencies demonstrated for the group of assessment criteria in this qualification, must prove that the whole competence is more than the sum of the parts of the competencies.
Providers should conduct diagnostic and formative assessment. Formative, continuous and diagnostic assessments should also take place in the work place, if applicable. The learner should also be able to assess him or herself and determine readiness for a summative assessment against this qualification.

During integrated assessments the assessor should make use of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies. Input to completing the Integrated Assessment typically makes use of combinations of the following assessment methods:

1. Time-constrained written examinations
2. Coursework Evaluations
3. Continuous Evaluation
4. Practical Evaluation
5. Evaluation of Portfolios of Evidence

INTERNATIONAL COMPARABILITY

This qualification and associated unit standards have been evaluated with, and are comparable to equivalent qualifications and standards on the following Qualifications Frameworks:

> New Zealand NQF,
> Australian NQF,
> British NVQs.

Furthermore, input to the development of this qualification has been compared against international standards and qualifications, specifically those of New Zealand, Australia and the United Kingdom. International and South African support for the proposed conceptual framework and content is evidenced in the following:

> India's TATA InfoTech Qualification for Software Developers,
> City and Guilds Certificate and Diploma for Software Developers and IT Technicians,
> NCC Education's (UK-based) International Certificate and Diploma in Computer Studies for IT Professionals
> Microsoft MCSD certification
> The wide and narrow consultative process, and formal research, reflected in the supporting design report that accompanies this qualification submission.

ARTICULATION OPTIONS

Upon successful completion of the qualification, the qualifying learner will have a thorough understanding of the role of an IT Systems Development person and be able to competently carry out the exit level outcomes of the qualification, in a business environment. The qualification may be acquired in the traditional way of formal study as well as in the workplace, through learnerships, or by a method of RPL.

A qualifying learner at this level will be a well-rounded IT professional building on foundational technical skills acquired at NQF level 4, via the National Certificate in IT Systems Development or equivalent. This qualification covers various specialisation(s) into IT Systems Development or to any other related vertical or enabled markets.

This qualification was developed to allow for further study in Information Technology and related fields at Higher Education levels. It will allow the qualified learner to progress to further qualifications either in Systems Development or other IT domains, or into related industries where IT is a key component. In particular, this qualification has been designed to allow entry into the National Diploma in Systems Development at NQF level 5 and into current tertiary qualifications at National Diploma level.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this qualification must be registered as an assessor, at the appropriate level, with the relevant ETQA.
> Any institution offering learning that will enable the achievement of this qualification must be approved as a provider with the relevant ETQA.
> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation; in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).
> Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards, exit level outcomes as well as the integrated competence described in this qualification.
> Moderation should also encompass achievement of the competence described both in individual unit standards as well as the integrated competence described in the qualification.
> Anyone wishing to be assessed against this Qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited for assessment by the relevant ETQA.

To ensure that national standards are maintained, the final assessment should be conducted on the following basis, which will be under the control of the relevant ETQA's (ISETT SETA or other relevant

ETQA's):

> Integrated assessment of the learner needs to be undertaken using the necessary assessment tools (viz. ETQA approved assessor guides) to ensure consistent integrated assessment. The setting of assessor guides can be performed by the ETQA itself or a nominated body or bodies.
> Assessment can be institutional and/or workplace based, but must be done by a registered assessor.
> ETQA verification (external moderation) will be undertaken as required, to ensure that the quality of NQF standards are maintained nationally.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The criteria to register as an assessor includes the following:

> Assessors should be registered as assessors with the relevant ETQA, in accordance with the policies and procedures defined by the ETQA.
> Have a relevant academic qualification or equivalent recognition, at a level higher that the qualification being assessed. In addition the person will need to have at least two years industry experience.
> All registered assessors must at least have met the requirements of the generic assessor standard, and should be certificated by the ETDP SETA or by the relevant ETQA in agreement with the ETDP SETA in this regard.
> For the assessment of IT specific unit standards, assessors must have competency in the skills specified in the unit standard or specialisation area.

NOTES

Supporting documentation to this document has been created to suggest ETQA guidelines for learnership implementations of this qualification. It contains additional information to support the implementation of this qualification, for example, it lists the knowledge areas covered by the qualification, the ways in which the learning assumed to be in place can by acquired, different ways in which learnerships (that will lead to this qualification) can be implemented, etc.

Qualification Naming and Specialisation Description

The Information Technology sub-field has been broken into various domains, of which Systems Support is one. Qualification names will be linked to these domains, with specialisation descriptions attached to the qualification certification document being produced. The reason for this is firstly to reduce the number of qualifications needed to be registered to a manageable level, and secondly to have the qualification linked to the typical structure of the Information Technology industry. Finally we want to have the qualification certification document to reflect fields of specialisation, for unit standards that has been achieved within listed fields of specialisation.

This qualification has been developed within a Contextual Qualifications Framework ie elective specialisation fields indicate the context in which the overall learning programme will be applied and assessed. The core components will be the generic base which is expected to be contextualised to meet the unique and specific issues for the ICT sector, and the range of enabled (vertical) markets. These specialisation fields can be defined as part of the elective unit standards for the qualification. This will allow flexibility in future to add new specialisation fields without having to redefine the whole qualification. This is very important to the IT industry which is a very dynamic and fast changing industry.

The naming of this qualification is as follows:
National Certificate in Information Technology: Systems Development (NQF Level 5),
Specialising in one or more of the following contextualised fields:

> Procedural Programming
> Object Oriented Programming
> Fourth Generation Language Programming
> Web site development
> Multimedia Development
> E-Commerce Development
> (and any new field not specified yet, allowing for any other current or future specialisations, like for eg. Banking, Insurance, Telecomms etc.)

A minimum of 25 credits from any one contextualised field is needed to be recognised as a specialisation field. Depending on the credits achieved, more than one contextualised field might be printed on the qualification certification documentation.

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

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	14912 Investigate the use of computer technology in an organisation	Level 3	6	Registered
Core	14921 Describe the types of computer systems and associated hardware configurations	Level 4	6	Registered
Core	14924 Demonstrate an understanding of information systems analysis	Level 4	3	Registered
Core	14930 Demonstrate an understanding of the principles of developing software for the internet	Level 4	3	Registered
Core	115359 Demonstrate an understanding of the handling of error in a computer programming environment	Level 4	2	Draft - Prep for P Comment
Core	115391 Demonstrate an understanding of the principles of the internet and the world-wide-web	Level 4	3	Draft - Prep for P Comment
Core	114048 Create database access for a computer application using structured query language	Level 5	9	Registered
Core	114049 Demonstrate an understanding of Computer Database Management Systems	Level 5	7	Registered
Core	115358 Apply information gathering techniques for computer system development	Level 5	7	Draft - Prep for P Comment
Core	115362 Manage software development source files using appropriate tools	Level 5	5	Draft - Prep for P Comment
Core	115365 Apply the principles of designing computer system inputs and outputs	Level 5	7	Draft - Prep for P Comment
Core	115367 Demonstrate logical problem solving and error detection techniques	Level 5	8	Draft - Prep for P Comment
Core	115373 Demonstrate an understanding of sort and search techniques used in computer programming	Level 5	6	Draft - Prep for P Comment
Core	115384 Test a computer program against a given specification	Level 5	6	Draft - Prep for P Comment
Core	115388 Produce documentation for a computer program to agreed standards	Level 5	3	Draft - Prep for P Comment
Core	115392 Apply principles of creating computer software by developing a complete program to meet given business specifications	Level 5	12	Draft - Prep for P Comment
Elective	115360 Demonstrate fourth generation language computer programming skills	Level 5	7	Draft - Prep for P Comment
Elective	115363 Apply fundamental principles of Object Oriented Programming to solve a given problem	Level 5	10	Draft - Prep for P Comment
Elective	115364 Create animation for a multimedia/web-based computer application	Level 5	10	Draft - Prep for P Comment
Elective	115366 Create graphic elements for a multimedia/web-based computer application	Level 5	10	Draft - Prep for P Comment
Elective	115368 Apply advanced HTML and associated techniques to build a web site for business applications	Level 5	12	Draft - Prep for P Comment
Elective	115369 Design and build a web-site using simple HTML	Level 5	5	Draft - Prep for P Comment
Elective	115370 Create digitised still images for a multimedia/web-based computer applicatio	Level 5	10	Draft - Prep for P Comment
Elective	115371 Create digitised sound for a multimedia/web-based computer application	Level 5	10	Draft - Prep for P Comment
Elective	115372 Demonstrate an understanding of tools and products available for web-site development	Level 5	3	Draft - Prep for P Comment
Elective	115374 Demonstrate an understanding of the use of web-sites in business	Level 5	4	Draft - Prep for P Comment
Elective	115375 Create digitised video for a multimedia/web-based computer application	Level 5	10	Draft - Prep for P Comment
Elective	115376 Demonstrate an understanding of the principles of implementing and managing a web server	Level 5	10	Draft - Prep for P Comment
Elective	115377 Explain the IT components of an e-Commerce system	Level 5	4	Draft - Prep for P Comment

Elective	115379	Create object scripts for a multimedia/web-based computer application	Level 5	20	Draft - Prep for P Comment
Elective	115380	Demonstrate an understanding of the various types of e-commerce applications	Level 5	8	Draft - Prep for P Comment
Elective	115383	Demonstrate an understanding of the principles of designing and building an e-Commerce web site	Level 5	10	Draft - Prep for P Comment
Elective	115385	Demonstrate an understanding of the principles of implementing and managing an e-Commerce web site	Level 5	12	Draft - Prep for P Comment
Elective	115386	Apply the principles of creating batch and interactive computer programs using a procedural programming language	Level 5	10	Draft - Prep for P Comment
Elective	115390	Create an application for a single-user personal computer using a fourth generation language	Level 5	10	Draft - Prep for P Comment
Elective	115361	Create digitised text for a multimedia/web-based computer application	Level 6	8	Draft - Prep for P Comment
Elective	115378	Demonstrate an understanding of advanced object-oriented programming	Level 6	14	Draft - Prep for P Comment
Elective	115381	Apply the principles of creating a computer program using an OOP language in a GUI environment	Level 6	12	Draft - Prep for P Comment
Elective	115382	Apply the principles of creating computer programs containing advanced algorithms using a procedural programming language	Level 6	12	Draft - Prep for P Comment
Elective	115387	Apply the principles of creating a computer program using a procedural programming language in a GUI environment	Level 6	14	Draft - Prep for P Comment
Elective	115389	Design a computer application for a single-user personal computer for programming with a 4GL	Level 6	12	Draft - Prep for P Comment
Fundamental	8974	Engage in sustained oral communication and evaluate spoken texts	Level 4	5	Registered
Fundamental	8975	Read analyse and respond to a variety of texts	Level 4	5	Registered
Fundamental	9502	Write a technical report	Level 4	4	Registered
Fundamental	10135	Work as a project team member	Level 4	8	Registered
Fundamental	114076	Use computer technology to research a computer topic	Level 4	3	Registered
Fundamental	13925	Present information in a public setting	Level 5	5	Registered
Fundamental	114050	Explain the principles of business and the role of information technology	Level 5	4	Registered
Fundamental	114051	Conduct a technical practitioners meeting	Level 5	4	Registered
Fundamental	114055	Demonstrate an awareness of ethics and professionalism for the computer industry in South Africa	Level 5	3	Registered
Fundamental	114059	Demonstrate an understanding of estimating a unit of work and the implications of late delivery	Level 5	5	Registered
Fundamental	115431	Analyse feedback contexts and apply constructive feedback techniques	Level 5	3	Draft - Prep for P Comment

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 1

Demonstrate an understanding of the handling of error in a computer programming environment

SAQA US ID	*UNIT STANDARD TITLE*
115359	Demonstrate an understanding of the handling of error in a computer programming environment

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 4	2

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain different errors found in the computer programming environment.

SPECIFIC OUTCOME 2

Demonstrate how calculation errors are induced in the computer.

SPECIFIC OUTCOME 3

Demonstrate how mistakes and computer errors can be minimised.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 2

Demonstrate an understanding of the principles of the internet and the world-wide-web

SAQA US ID	*UNIT STANDARD TITLE*
115391	Demonstrate an understanding of the principles of the internet and the world-wide-web

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 4	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the principles of the internet and the world-wide-web.

SPECIFIC OUTCOME 2

Explain how the world-wide-web incorporates the various internet applications.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 3

Analyse feedback contexts and apply constructive feedback techniques

SAQA US ID	*UNIT STANDARD TITLE*
115431	Analyse feedback contexts and apply constructive feedback techniques

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Provide constructive feedback.

SPECIFIC OUTCOME 2

Analyse feedback contexts and/ or situations.

SPECIFIC OUTCOME 3

Respond constructively to feedback.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 4

Apply advanced HTML and associated techniques to build a web site for business applications

SAQA US ID	*UNIT STANDARD TITLE*
115368	Apply advanced HTML and associated techniques to build a web site for business applications

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Discuss the need for advanced HTML features.

SPECIFIC OUTCOME 2

Demonstrate an understanding of connecting web sites to business applications.

SPECIFIC OUTCOME 3

Demonstrate an understanding of connecting web sites to business applications

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 5

Apply fundamental principles of Object Oriented Programming to solve a given problem

SAQA US ID	*UNIT STANDARD TITLE*
115363	Apply fundamental principles of Object Oriented Programming to solve a given problem

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Create basic classes for given simple examples.

SPECIFIC OUTCOME 2

Implement member functions for given simple examples.

SPECIFIC OUTCOME 3

Create and use objects for a given simple class.

SPECIFIC OUTCOME 4

Use objects to solve a given simple problem.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 6

Apply information gathering techniques for computer system development

SAQA US ID	*UNIT STANDARD TITLE*
115358	Apply information gathering techniques for computer system development

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Design and conduct an interview for gathering information for computer system development.

SPECIFIC OUTCOME 2

Design and perform an analysis of the results from a questionnaire for gathering information.

SPECIFIC OUTCOME 3

Gather data from documents for computer system development.

SPECIFIC OUTCOME 4

Observe a person's behaviour for gathering information for computer system development.

SPECIFIC OUTCOME 5

Consolidate the information gathered via different techniques.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 7

Apply principles of creating computer software by developing a complete program to meet given business specifications

SAQA US ID	*UNIT STANDARD TITLE*
115392	Apply principles of creating computer software by developing a complete program to meet given business specifications

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Interpret a given specification to plan a computer program solution.

SPECIFIC OUTCOME 2

Design a computer program to meet a business requirement.

SPECIFIC OUTCOME 3

Create a computer program that implements the design.

SPECIFIC OUTCOME 4

Test a computer program against the business requirements.

SPECIFIC OUTCOME 5

Implement the program to meet business requirements.

SPECIFIC OUTCOME 6

Document the program according to industry standards.

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 8

Apply the principles of creating batch and interactive computer programs using a procedural programming language

SAQA US ID	*UNIT STANDARD TITLE*
115386	Apply the principles of creating batch and interactive computer programs using a procedural programming language

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain batch and interactive computer program concepts.

SPECIFIC OUTCOME 2

Create batch programs for commercial tasks using a procedural language in a text-based environment.

SPECIFIC OUTCOME 3

Create interactive programs for commercial tasks with procedural language in text-based environment.

SPECIFIC OUTCOME 4

Test computer programs that demonstrate procedural programming language skills.

SPECIFIC OUTCOME 5

Document computer programs that demonstrate procedural programming language skills.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 9

Apply the principles of designing computer system inputs and outputs

SAQA US ID	*UNIT STANDARD TITLE*
115365	Apply the principles of designing computer system inputs and outputs

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the principles of computer input and output design.

SPECIFIC OUTCOME 2

Design computer input and output functions.

SPECIFIC OUTCOME 3

Create computer input and output functions.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 10

Create an application for a single-user personal computer using a fourth generation language

SAQA US ID	*UNIT STANDARD TITLE*
115390	Create an application for a single-user personal computer using a fourth generation language

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Review the design for a computer application for a single-user personal computer.

SPECIFIC OUTCOME 2

Write program code for a computer application for a single-user personal computer using a 4GL.

SPECIFIC OUTCOME 3

Test programs for a computer application for a single-user personal computer programmed using a 4GL.

SPECIFIC OUTCOME 4

Document programs for a computer application for a single-user personal computer.

SPECIFIC OUTCOME 5

Review the program development process for a computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 11

Create animation for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115364	Create animation for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan the creation of animation for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Define the style of animation for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Create entities to be animated for a multimedia/web-based computer application.

SPECIFIC OUTCOME 4

Define storyboards and time allocations for animations.

SPECIFIC OUTCOME 5

Generate animations for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 12

Create digitised sound for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115371	Create digitised sound for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan the creation of digitised sound for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Digitise sound for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Edit a digitised a soundtrack for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 13

Create digitised still images for a multimedia/web-based computer applicatio

SAQA US ID	*UNIT STANDARD TITLE*
115370	Create digitised still images for a multimedia/web-based computer applicatio

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Review requirements for digitised still images for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Digitise still images for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Manipulate digitised still images for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 14

Create digitised video for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115375	Create digitised video for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan the creation of digitised video for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Define storyboards for digitised videos for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Define a short list for a multimedia/web-based computer application.

SPECIFIC OUTCOME 4

Digitise video for a multimedia/web-based computer application.

SPECIFIC OUTCOME 5

Edit digitised video for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 15

Create graphic elements for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115366	Create graphic elements for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan the creation of graphic elements for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Define the style of graphic components for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Create graphic elements for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 16

Create object scripts for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115379	Create object scripts for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	20

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan the creation of object scripts for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Define logic flow of object scripts for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Write object scripts for a multimedia/web-based computer application.

SPECIFIC OUTCOME 4

Test object scripts for a multimedia/web-based computer application.

SPECIFIC OUTCOME 5

Document object scripts for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 17

Demonstrate an understanding of the principles of designing and building an e-Commerce web site

SAQA US ID	*UNIT STANDARD TITLE*
115383	Demonstrate an understanding of the principles of designing and building an e-Commerce web site

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the business considerations behind developing an e-commerce web site

SPECIFIC OUTCOME 2

Design an e-commerce web site.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 18

Demonstrate an understanding of the principles of implementing and managing an e-Commerce web site

SAQA US ID	*UNIT STANDARD TITLE*
115385	Demonstrate an understanding of the principles of implementing and managing an e-Commerce web site

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Identify various marketing options for use within e-Commerce web sites.

SPECIFIC OUTCOME 2

Explain the legal issues concerning the building of an e-Commerce web site.

SPECIFIC OUTCOME 3

Demonstrate an understanding of hosting arrangements for an e-Commerce web site.

SPECIFIC OUTCOME 4

Demonstrate an understanding of providing support for an e-Commerce web site.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 19

Demonstrate an understanding of sort and search techniques used in computer programming

SAQA US ID	*UNIT STANDARD TITLE*
115373	Demonstrate an understanding of sort and search techniques used in computer programming

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	6

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate an understanding of how abstract data types are stored on computers.

SPECIFIC OUTCOME 2

Demonstrate an understanding of sort techniques used to sort data held in data structures.

SPECIFIC OUTCOME 3

Demonstrate an understanding of search techniques.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 20

Demonstrate an understanding of the principles of implementing and managing a web server

SAQA US ID	*UNIT STANDARD TITLE*
115376	Demonstrate an understanding of the principles of implementing and managing a web server

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	10

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the implementation of a web server.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the management of a web server.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 21

Demonstrate an understanding of the use of web-sites in business

SAQA US ID	*UNIT STANDARD TITLE*
115374	Demonstrate an understanding of the use of web-sites in business

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Discuss the use of web sites in business.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the basic concepts of web-site design for business use.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 22

Demonstrate an understanding of the various types of e-commerce applications

SAQA US ID	*UNIT STANDARD TITLE*
115380	Demonstrate an understanding of the various types of e-commerce applications

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	8

Specific Outcomes:

SPECIFIC OUTCOME 1

Describe the various models and tools for conducting e-commerce over the internet.

SPECIFIC OUTCOME 2

Explain the security issues arising out of conducting e-commerce over the internet.

SPECIFIC OUTCOME 3

Explain the "supply chain" concept in e-commerce.

SPECIFIC OUTCOME 4

Describe the development of business-to-business e-commerce solutions.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 23

Demonstrate an understanding of tools and products available for web-site development

SAQA US ID	*UNIT STANDARD TITLE*
115372	Demonstrate an understanding of tools and products available for web-site development

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Describe the use of HTML editors and other web site design/ maintenance tools.

SPECIFIC OUTCOME 2

Demonstrate an understanding of web browser plug-ins.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 24

Demonstrate fourth generation language computer programming skills

SAQA US ID	*UNIT STANDARD TITLE*
115360	Demonstrate fourth generation language computer programming skills

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	7

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate an understanding of 4GLs.

SPECIFIC OUTCOME 2

Create a program using a multi-user 4GL.

SPECIFIC OUTCOME 3

Test a 4GL program created using a multi-user 4GL.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 25

Demonstrate logical problem solving and error detection techniques

SAQA US ID	*UNIT STANDARD TITLE*
115367	Demonstrate logical problem solving and error detection techniques

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	8

Specific Outcomes:

SPECIFIC OUTCOME 1

Describe different approaches to problem solving.

SPECIFIC OUTCOME 2

Use logical operators in descriptions of rules and relationships in a problem situation.

SPECIFIC OUTCOME 3

Simplify Boolean expressions with Boolean algebra and Karnaugh maps.

SPECIFIC OUTCOME 4

Describe the basic concepts of error detection.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 26

Design and build a web-site using simple HTML

SAQA US ID	*UNIT STANDARD TITLE*
115369	Design and build a web-site using simple HTML

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	5

Specific Outcomes:

SPECIFIC OUTCOME 1

Apply basic guidelines for the web-page design.

SPECIFIC OUTCOME 2

Use core HTML to build the web-page.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 27

Explain the IT components of an e-Commerce system

SAQA US ID	*UNIT STANDARD TITLE*
115377	Explain the IT components of an e-Commerce system

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	4

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain the communication options common to all forms of e-commerce.

SPECIFIC OUTCOME 2

Describe different e-commerce software available.

SPECIFIC OUTCOME 3

Describe e-commerce standards.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the use of Electronic Data Interchange (EDI).

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 28

Manage software development source files using appropriate tools

SAQA US ID	*UNIT STANDARD TITLE*
115362	Manage software development source files using appropriate tools

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	5

Specific Outcomes:

SPECIFIC OUTCOME 1

Locate software development source files.

SPECIFIC OUTCOME 2

Retrieve software development source files for update purposes.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 29

Produce documentation for a computer program to agreed standards

SAQA US ID	*UNIT STANDARD TITLE*
115388	Produce documentation for a computer program to agreed standards

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	3

Specific Outcomes:

SPECIFIC OUTCOME 1

Plan and design documentation for a computer program to agreed standards.

SPECIFIC OUTCOME 2

Create documentation for a computer program to agreed standards.

SPECIFIC OUTCOME 3

Review documentation for a computer program for completeness.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 30

Test a computer program against a given specification

SAQA US ID	*UNIT STANDARD TITLE*
115384	Test a computer program against a given specification

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 5	6

Specific Outcomes:

SPECIFIC OUTCOME 1

Test a computer program against given specifications according to test plans.

SPECIFIC OUTCOME 2

Record the results from testing a computer program.

SPECIFIC OUTCOME 3

Review the testing process for a computer program against organisation policy and procedures.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 31

Apply the principles of creating a computer program using a procedural programming language in a GUI environment

SAQA US ID	*UNIT STANDARD TITLE*
115387	Apply the principles of creating a computer program using a procedural programming language in a GUI environment

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	14

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate an understanding of a GUI environment.

SPECIFIC OUTCOME 2

Write a computer program using a procedural programming language in a GUI environment.

SPECIFIC OUTCOME 3

Test a computer program written using a procedural programming language in a GUI environment.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 32

Apply the principles of creating a computer program using an OOP language in a GUI environment

SAQA US ID	*UNIT STANDARD TITLE*
115381	Apply the principles of creating a computer program using an OOP language in a GUI environment

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Demonstrate an understanding of a GUI environment.

SPECIFIC OUTCOME 2

Compare a GUI environment with a text-based environment.

SPECIFIC OUTCOME 3

Write a computer program using an OOP language in a GUI environment.

SPECIFIC OUTCOME 4

Test a computer program using an OOP language in a GUI environment.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 33

Apply the principles of creating computer programs containing advanced algorithms using a procedural programming language

SAQA US ID	*UNIT STANDARD TITLE*
115382	Apply the principles of creating computer programs containing advanced algorithms using a procedural programming language

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Explain computer program advanced algorithm concepts.

SPECIFIC OUTCOME 2

Create computer programs containing advanced algorithms using a procedural programming language.

SPECIFIC OUTCOME 3

Test programs containing advanced algorithms programmed using a procedural programming language.

SPECIFIC OUTCOME 4

Document programs containing advanced algorithms programmed using procedural programming language.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 34

Create digitised text for a multimedia/web-based computer application

SAQA US ID	*UNIT STANDARD TITLE*
115361	Create digitised text for a multimedia/web-based computer application

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	8

Specific Outcomes:

SPECIFIC OUTCOME 1

Review requirements for digitised text for a multimedia/web-based computer application.

SPECIFIC OUTCOME 2

Digitise text for a multimedia/web-based computer application.

SPECIFIC OUTCOME 3

Edit and store digitised text for a multimedia/web-based computer application.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 35

Demonstrate an understanding of advanced object-oriented programming

SAQA US ID	*UNIT STANDARD TITLE*
115378	Demonstrate an understanding of advanced object-oriented programming

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	14

Specific Outcomes:

SPECIFIC OUTCOME 1

Apply advanced object-oriented techniques.

SPECIFIC OUTCOME 2

Analyse problem situations to plan an OOP implementation.

SPECIFIC OUTCOME 3

Use abstract classes to optimise re-usability.

SPECIFIC OUTCOME 4

Use basic design patterns to optimise re-usability.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 36

Design a computer application for a single-user personal computer for programming with a 4GL

SAQA US ID	*UNIT STANDARD TITLE*
115389	Design a computer application for a single-user personal computer for programming with a 4GL

SGB NAME	*ABET BAND*	*PROVIDER NAME*
SGB Information Systems and Technology	Undefined	

FIELD DESCRIPTION	*SUBFIELD DESCRIPTION*
Physical, Mathematical, Computer and Life Sciences	Information Technology and Computer Sciences

UNIT STANDARD CODE	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
PHY-ITC-0-SGB IST	Regular	Level 6	12

Specific Outcomes:

SPECIFIC OUTCOME 1

Review user requirements for a computer application for a single-user personal computer.

SPECIFIC OUTCOME 2

Define the structure of a computer application for a single-user personal computer.

SPECIFIC OUTCOME 3

Define components for a computer application for a single-user personal computer for programming.

SPECIFIC OUTCOME 4

Set standards for a computer application for a single-user personal computer for programming.

SPECIFIC OUTCOME 5

Specify test criteria for a computer application for a single-user personal computer.

SPECIFIC OUTCOME 6

Define implementation and operation requirements for a computer application for a single-user.

SPECIFIC OUTCOME 7

Review the design process for a computer application for a single-user personal computer.