No. 1241

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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

ABET Practitioners

Registered by NSB 05, Education, Training and Development, publishes the following unit standard for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the unit standard upon which qualifications are based. The full unit standard can be accessed via the SAQA web-site at <u>www.saqa.org.za</u>. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 1067 Arcadia Street, Hatfield Forum West, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address **below and no later than** 28 November 2004. All correspondence should be marked Standards Setting – SGB for ABET Practitioners and addressed to

> The Director: Standards Setting and Development SAQA Attention: Mr. D Mphuthing Postnet Suite 248 Private Bag X06 Waterkloof 0145 or faxed to 012 – 431-5144 <u>dmphuthing@saqa.co.za</u>

JOE SAMUELS DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

Title:	Facilitate learning in Natural Sciences to adult learners Range: The facilitation of learning programmes in Natural Sciences, to adult learners and out of school youth, within the general and further education and training bands.	
NQF Level	:	5
Credits	:	20
Field	:	Education, Training and Development
Sub-field: Issue date	:	Adult Learning
Review date	:	

Purpose:

Persons accredited with this Unit Standard are able to facilitate learning in Natural Sciences by effectively selecting and implementing learning and teaching strategies. The candidates will be able to facilitate and assess learning within meaningful contexts, and relate the learning to other learning areas and fields.

Learning assumed to be in place:

- FETC or equivalent.
- Relevant registered assessor standard.
- Learning in Natural Sciences at the level above that being facilitated/targeted, or a RPL equivalent.
- Core ETD practitioner standards need to be achieved by the time candidates achieve this standard.

Specific Outcome 1: Demonstrate subject knowledge in Natural Sciences at the required level

Note: An opportunity is provided for candidates to upgrade their own relevant knowledge in Natural Sciences while acquiring methodology skills.

- AC1 Scientific skills and knowledge contributing to sustainable use of resources are analysed and used in real and/or simulated conditions.
- AC2 Fundamental concepts and principles in the natural sciences are explained and used in real and simulated conditions.
- AC3 The impact of scientific innovation on quality of life is assessed through written and practical testing.
- AC4 Ethical issues arising from advances in the natural sciences are discussed within groups.

Specific Outcome 2: Apply the requirements of Natural Sciences Unit Standards to Adult Learners

- AC1 Knowledge, skills, values and attitudes required of learners are described in terms of the requirements of the Unit Standard.
- AC2 The Natural Sciences Unit Standards are used to plan lessons.
- AC3 Learners' performance are described and assessed in relation to the Natural Sciences Unit Standards.
- AC4 Core ETD practitioner Unit Standards are applied to Natural Sciences learning.
- AC5 The Natural Sciences Unit Standards are interpreted within appropriate contexts.
- AC6 The significance of science is illustrated by giving examples from everyday life.

AC7 The process of conducting an investigation is facilitated by using outcomes-based methodology.

Specific Outcome 3: Identify, select, adapt and use resources, materials and equipment specific to Natural Sciences

- AC1 Appropriate materials, resources and equipment are identified and selected to address the requirements of the Unit Standards.
- AC2 Clear instructions are given to learners about the use of materials and equipment.
- AC3 Materials and resources are adapted to be suitable to the context.
- AC4 Equipment is selected to be suitable to the context.
- AC5 Alternative resources and equipment are used in the absence of standard equipment.
- AC6 Materials, resources and equipment are selected by using quality as a criterion for the level and purpose of use.
- AC7 Materials are evaluated on a continuous basis to ensure appropriateness.
- AC8 Indigenous knowledge and researched knowledge is used in accordance with requirements of the Unit Standards.

Specific Outcome 4 Implement innovative teaching and learning strategies specific to Natural Sciences

- AC1 Learning opportunities are created for innovative groups and individuals.
- AC2 Experiments and procedures to investigate phenomena are conducted in a safe and cost-effective way.
- AC3 A variety of innovative learning methodologies are used to demonstrate concepts or principles, such as group work, role-plays, models, model-building, projects and displays.
- AC4 Assignments are given that encourage the illustration of science in everyday life.

Specific Outcome 5: Demonstrate how Natural Sciences takes place in a particular context and links with other areas / fields of learning.

- AC1 The link between Natural Sciences and Technology is explained through the use of examples.
- AC2 The influence of Science and Technology on economic growth is explained with reference to they uses to which they have been employed.
- AC3 The innovation of Science and Technology is explained and discussed in terms of global competitiveness.
- AC4 The links between Natural Sciences and other learning areas are identified and communicated to learners.
- AC5 Ways in which Natural Sciences is part of various related systems are explained in terms of micro- and macro-economic, political, social, educational systems.
- AC6 Various fields of Natural Sciences are described with reference to fields of study of the natural sciences, career paths in natural sciences, natural sciences and non-natural science fields, etc.

Accreditation process (including moderation):

The relevant ETQA awarding this qualification make adequate arrangements for assessment, moderation and accreditation of this Unit Standard.

Note to the assessor.

The outcomes in this Unit Standard can be assessed through practical observations. Candidates may be able to demonstrate the skills and knowledge required by SO 1 through a knowledge assessment which integrates the outcomes from other elective and core Unit Standards that make up the ABET Practitioner qualifications.

Notes:

1) Critical cross-field outcomes

- Identify and solve problems (all SOs): use facilitation skills to identify and solve problems in the context of Natural Sciences learning;
- Work effectively with others and in teams (all SOs, but particularly SO4): use cooperative teaching and learning strategies;
- Organise and manage oneself and one's activities responsibly and effectively (all SOs, but specifically SO 3 and SO 4): through planning and organising resources, materials, equipment and learning programmes;
- Collect, analyse, organise and critically evaluate information (all SOs): through development and demonstration of subject knowledge, and applied to the selection, planning, organising and facilitating of learning programmes;
- Communicate effectively using visual, mathematical and/or language skills (all SOs): use communications skills for effective facilitation;
- Use science and technology effectively and critically (all SOs): applied throughout.
- Understand the world as a set of related systems (SO5): Natural Sciences practice and learning takes place within wider contexts.

And the following developmental outcomes:

- Reflect on and explore a variety of creative strategies to learn more effectively: within the context of Natural Sciences;
- Participate as responsible citizens in the life of local, national and global communities: through being involved in Natural Sciences facilitation, candidates participate in education and economic communities;
- Be culturally and aesthetically sensitive across a range of social contexts: facilitation
 of Natural Sciences should be done with sensitivity to the culture of the learners, and
 Natural Sciences practices should be selected and implemented with sensitivity to
 cultural aspects of the community;
- Explore education and career opportunities: career opportunities within Natural Sciences are explored and promoted.

2) Essential embedded knowledge

The essential embedded knowledge required for this Unit Standard has been carefully built into the assessment criteria. It is not detailed in a separate notes section. This is not an omission, but a decision made by the ABET Practitioner SGB and is detailed in the introduction to the qualifications.