

National Curriculum Statement (NCS)

**Curriculum and Assessment
Policy Statement**



*Further Education and Training Phase
Grades 10-12*





basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**CURRICULUM AND ASSESSMENT POLICY STATEMENT
GRADES 10 – 12**

SPORT AND EXERCISE SCIENCE

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ISBN: 978-1-4315-0578-4

Design and Layout by: Ndabase Printing Solution Printed by: Government Printing Works

FOREWORD BY THE MINISTER



Our national curriculum is the culmination of our efforts over a period of seventeen years to transform the curriculum bequeathed to us by apartheid. From the start of democracy we have built our curriculum on the values that inspired our Constitution (Act 108 of 1996). The Preamble to the Constitution states that the aims of the Constitution are to:

- heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights;
- improve the quality of life of all citizens and free the potential of each person;
- lay the foundations for a democratic and open society in which government is based on the will of the people and every citizen is equally protected by law; and
- build a united and democratic South Africa able to take its rightful place as a sovereign state in the family of nations.

Education and the curriculum have an important role to play in realising these aims.

In 1997 we introduced outcomes-based education to overcome the curricular divisions of the past, but the experience of implementation prompted a review in 2000. This led to the first curriculum revision: the *Revised National Curriculum Statement Grades R-9* and the *National Curriculum Statement Grades 10-12* (2002).

Ongoing implementation challenges resulted in another review in 2009 and we revised the *Revised National Curriculum Statement* (2002) and the *National Curriculum Statement Grades 10-12* to produce this document.

From 2012 the two *National Curriculum Statements*, for *Grades R-9* and *Grades 10-12* respectively, are combined in a single document and will simply be known as the *National Curriculum Statement Grades R-12*. The *National Curriculum Statement for Grades R-12* builds on the previous curriculum but also updates it and aims to provide clearer specification of what is to be taught and learnt on a term-by-term basis.

The *National Curriculum Statement Grades R-12* represents a policy statement for learning and teaching in South African schools and comprises of the following:

- (a) Curriculum and Assessment Policy Statements (CAPS) for all approved subjects listed in this document;
- (b) *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*; and
- (c) *National Protocol for Assessment Grades R-12*.

A handwritten signature in black ink, which appears to read 'Angie Motshekga'. The signature is fluid and cursive.

MRS ANGIE MOTSHEKGA, MP
MINISTER OF BASIC EDUCATION

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SECTION 1

INTRODUCTION TO THE CURRICULUM AND ASSESSMENT POLICY STATEMENTS FOR SPORT AND EXERCISE SCIENCE GRADES 10 – 12

1.1 Background

The *National Curriculum Statement Grades R – 12 (NCS)* stipulates policy on curriculum and assessment in the schooling sector.

To improve implementation, the National Curriculum Statement was amended, with the amendments coming into effect in January 2012. A single comprehensive Curriculum and Assessment Policy document was developed for each subject to replace Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines in Grades R – 12.

1.2 Overview

- (a) The *National Curriculum Statement Grades R – 12 (January 2012)* represents a policy statement for learning and teaching in South African schools and comprises the following:
- (i) *Curriculum and Assessment Policy Statements for each approved school subject;*
 - (ii) *The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12; and*
 - (iii) *The policy document, National Protocol for Assessment Grades R – 12 (January 2012).*
- (b) The *National Curriculum Statement Grades R – 12 (January 2012)* replaces the two current national curricula statements, namely the
- (i) *Revised National Curriculum Statement Grades R – 9, Government Gazette No. 23406 of 31 May 2002, and*
 - (ii) *National Curriculum Statement Grades 10 – 12 Government Gazettes, No. 25545 of 6 October 2003 and No. 27594 of 17 May 2005.*
- (c) The national curriculum statements contemplated in subparagraphs b(i) and (ii) comprise the following policy documents which will be incrementally repealed by the *National Curriculum Statement Grades R – 12 (January 2012)* during the period 2012 – 2014:
- (i) *The Learning Area/Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R-9 and Grades 10 – 12;*
 - (ii) *The policy document, National Policy on assessment and qualifications for schools in the General Education and Training Band, promulgated in Government Notice No. 124 in Government Gazette No. 29626 of 12 February 2007;*
 - (iii) *The policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), promulgated in Government Gazette No.27819 of 20 July 2005;*

- (iv) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding learners with special needs, published in Government Gazette, No.29466 of 11 December 2006, is incorporated in the policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12; and*
 - (v) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment (Grades R – 12), promulgated in Government Notice No.1267 in Government Gazette No. 29467 of 11 December 2006.*
- (d) The policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12*, and the sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the *National Curriculum Statement Grades R – 12*. It will therefore, in terms of *section 6A of the South African Schools Act, 1996 (Act No. 84 of 1996)*, form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

1.3 General aims of the South African Curriculum

- (a) The *National Curriculum Statement Grades R – 12* gives expression to the knowledge, skills and values worth learning in South African schools. This curriculum aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives.
- (b) The National Curriculum Statement Grades R – 12 serves the purposes of:
 - equipping learners, irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with the knowledge, skills and values necessary for self-fulfilment, and meaningful participation in society as citizens of a free country;
 - providing access to higher education;
 - facilitating the transition of learners from education institutions to the workplace; and
 - providing employers with a sufficient profile of a learner's competences.
- (c) The National Curriculum Statement Grades R – 12 is based on the following principles:
 - Social transformation: ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population;
 - Active and critical learning: encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths;
 - High knowledge and high skills: the minimum standards of knowledge and skills to be achieved at each grade are specified and set high, achievable standards in all subjects;
 - Progression: content and context of each grade shows progression from simple to complex;

- Human rights, inclusivity, environmental and social justice: infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades R-12 is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors;
- Valuing indigenous knowledge systems: acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and
- Credibility, quality and efficiency: providing an education that is comparable in quality, breadth and depth to those of other countries.

(d) The National Curriculum Statement Grades R – 12 aims to produce learners that are able to:

- identify and solve problems and make decisions using critical and creative thinking;
- work effectively as individuals and with others as members of a team;
- organise and manage themselves and their activities responsibly and effectively;
- collect, analyse, organise and critically evaluate information;
- communicate effectively using visual, symbolic and/or language skills in various modes;
- use science and technology effectively and critically showing responsibility towards the environment and the health of others; and
- demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

(e) Inclusivity should become a central part of the organisation, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity.

The key to managing inclusivity is ensuring that barriers are identified and addressed by all the relevant support structures within the school community, including teachers, District-Based Support Teams, Institutional-Level Support Teams, parents and Special Schools as Resource Centres. To address barriers in the classroom, teachers should use various curriculum differentiation strategies such as those included in the Department of Basic Education's *Guidelines for Inclusive Teaching and Learning* (2010).

1.4 Time Allocation

1.4.1 Foundation Phase

(a) The instructional time in the Foundation Phase is as follows:

SUBJECT	GRADE R (HOURS)	GRADES 1 – 2 (HOURS)	GRADE 3 (HOURS)
Home Language	10	8/7	8/7
First Additional Language		2/3	3/4
Mathematics	7	7	7
Life Skills	6	6	7
Beginning Knowledge	(1)	(1)	(2)
Creative Arts	(2)	(2)	(2)
Physical Education	(2)	(2)	(2)
Personal and Social Well-being	(1)	(1)	(1)
TOTAL	23	23	25

(b) Instructional time for Grades R, 1 and 2 is 23 hours and for Grade 3 is 25 hours.

(c) Ten hours are allocated for languages in Grades R – 2 and 11 hours in Grade 3. A maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 2 hours and a maximum of 3 hours for Additional Language in Grades 1 – 2. In Grade 3 a maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 3 hours and a maximum of 4 hours for First Additional Language.

(d) In Life Skills Beginning Knowledge is allocated 1 hour in Grades R – 2 and 2 hours as indicated by the hours in brackets for Grade 3.

1.4.2 Intermediate Phase

(a) The instructional time in the Intermediate Phase is as follows:

SUBJECT	HOURS
Home Language	6
First Additional Language	5
Mathematics	6
Natural Sciences and Technology	3,5
Social Sciences	3
Life Skills	4
Creative Arts	(1,5)
Physical Education	(1)
Personal and Social Well-being	(1,5)
TOTAL	27,5

1.4.3 Senior Phase

(a) The instructional time in the Senior Phase is as follows:

SUBJECT	HOURS
Home Language	5
First Additional Language	4
Mathematics	4,5
Natural Sciences	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Creative Arts	2
TOTAL	27,5

1.4.4 Grades 10 – 12

(a) The instructional time in Grades 10-12 is as follows:

SUBJECT	TIME ALLOCATION PER WEEK (HOURS)
Home Language	4.5
First Additional Language	4.5
Mathematics	4.5
Life Orientation	2
A minimum of any three subjects selected from Group B Annexure B, Tables B1 – B8 of the policy document, <i>National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12</i> , subject to the provisos stipulated in paragraph 28 of the said policy document.	12 (3 x 4h)
TOTAL	27,5

The allocated time per week may be utilised only for the minimum required NCS subjects as specified above, and may not be used for any additional subjects added to the list of minimum subjects. Should a learner wish to offer additional subjects, additional time must be allocated for the offering of these subjects.

SECTION 2

INTRODUCTION TO SPORT AND EXERCISE SCIENCE

The subject Sport and Exercise Science involves the holistic and systematic study of the human body which includes inter-alia the physiological, biomechanical, psychological, sociological and motor development aspects of human movement in various contexts. This includes the understanding of core concepts and their application in relevant contexts.

Sport and Exercise Science is a choice subject only offered at Further Education and Training level, i.e. in grades 10, 11 and 12.

The subject is assessed only by the Independent Examinations Board (IEB). Any school wishing to offer the subject should contact the IEB.

In accordance with the regulations pertaining to the National Senior Certificate, learners offering Sport and Exercise Science as a subject must offer either Physical Sciences or Life Sciences.

PURPOSE

The study of Sport and Exercise Science enables learners to explore those concepts that are essential for understanding the human body during different forms of physical activity and the manner in which the physiological, biomechanical, psychological and sociological components of the human being and the environment are interrelated and interconnected. Learners will develop scientific inquiry, problem solving, critical thinking and other skills and use Sport and Exercise Science concepts in explaining and understanding the movement of the human body. They will be able to apply scientific knowledge to their own personal well-being and to the advancement of their performance in sport, exercise, fitness and recreation. Through the study of Sport and Exercise Science, learners can develop an understanding of the influence of ethics and biases, technology, indigenous knowledge, environment and society.

The subject enables learners to understand fitness principles in exercise, fitness, sport and recreation as well as the long-term physiological response of the human body to exercise. Anatomical and biomechanical principles can be applied in movement practice and the role of nutrition in providing energy for participation and in maintaining a balanced lifestyle is explored. The values and attitudes required for dealing with discrimination in society, the natural and man-made environment and technology are considered.

AIMS OF SPORT AND EXERCISE SCIENCE

The subject Sport and Exercise Science develops the following competences:

- ❖ Understand and apply sport and exercise physiology as it relates to fitness, health and performance.
- ❖ Understand how nutrition relates to fitness, health and performance.
- ❖ Apply knowledge of anatomical and biomechanical principles to performance and injuries in exercise and sport.
- ❖ Understand the patterns of physical growth and motor development as they relate to changes in the performance capabilities of individuals of different ages, gender and disabilities.
- ❖ Understand the effects and influence of the psychosocial aspects of sport and exercise performance.
- ❖ Construct ethical considerations in relation to the challenges of the environment during exercise and performance in sport.

Understand and apply sport and exercise physiology as it relates to fitness, health and performance.

These skills will enable learners to understand the difference between exercise and training as well as an understanding of the immediate and long-term physiological response of the human body to exercise. Knowledge of what is meant by fitness and how it is developed, of the muscles and how they work during participation in sport and exercise. The understanding of the role that the heart, lungs, oxygen and energy play in the participation of sport and exercise will be explored and applied. Scientific inquiry and problem solving skills to understand the concepts of nutrition and energy and what this means for exercise will be explored. The learners will be able to differentiate between various sources of energy that become available in the body and know what role nutrients play in sporting performance capabilities.

Apply knowledge of anatomical and biomechanical principles to performance and injuries in exercise and sport.

This knowledge and skill will enable learners to describe anatomical structures and systems of the human body. This will enable the learner to locate anatomical structures and describe their involvement in movement. This knowledge will assist learners to analyse movement practice and to adapt performance as well as being able to conduct biomechanical analyses of movement. The nature and consequences of injuries on sport and exercise are explored.

Understand the patterns of physical growth and motor development as they relate to changes in the performance capabilities of individuals of different ages, gender and disability.

Learners will acquire knowledge pertaining to the major variables of physical growth and motor development that influence sport performance. They will also be able to know how growth patterns influence the development of sport skills at different stages and ages in an athlete's development. The influence of gender and disability on performance will also be addressed.

Understand the effects and influence of the psychosocial aspects of sport and exercise on performance as well as construct ethical considerations in relation to the challenges of the environment during exercise and performance in sport.

This knowledge as well as the underpinning skills, values and attitudes will enable the learner to understand the psychological components of performance and how these contribute to injuries. They will also be able to demonstrate an understanding of the meaning of values and attitudes with regard to the different roles in sport. Understanding multi-cultural diversity in relation to sport and establishing ethical guidelines for promoting the health and safety of performers will therefore be possible.

Educational and career links.

Life Orientation and Natural Science in the GET phase will form a direct link to the subject Sport and Exercise Science. Sport and Exercise Science in the FET band develops the knowledge, understanding and skills preparing young people to realize their expectations in sport at various levels, to access additional and higher education, and to take their rightful place in society.

Sport and Exercise Science broadens the range of career options for learners by being relevant and responsive to the employment prospects, higher education opportunities and entrepreneurship that exist beyond Further Education and Training, Sport and Exercise Science equips learners with the knowledge and skills for success in additional and higher education by preparing them for careers in the following fields: medicine, physiotherapy, biokinetics, occupational therapy, health, the sport and fitness industry, sport coaching, sport and exercise science research and professional athletics in a variety of codes.

SECTION 3

CONTENT OVERVIEW

The following topics are covered in Grades 10, 11 and 12 in a developmental manner:

- Anatomy and Physiology
- Psychology and Ethics
- Nutrition
- Training and Biomechanics
- Health and Injuries and Rehabilitation

3.1 Sport and Exercise Science for Grade 10: Content Overview

3.1.1 Anatomy and Physiology

- (a) Skeletal system
- (b) Muscular system
- (c) Cardiovascular system
- (d) Respiratory system
- (e) Circulatory system
- (f) Somatotypes and plotting on somatograph
- (g) Anatomical terms
- (h) Sleep and effects of sleep deprivation on performance

3.1.2 Psychology and Ethics

- (a) Personality types
- (b) Sportsmanship
- (c) Aggression

3.1.3 Nutrition

- (a) Food groups and portion size
- (b) Basal metabolic rate
- (c) Importance and relevance of organic compounds to an athlete:
- (d) Importance and relevance of minerals to an athlete
- (e) Basic cell structure

3.1.4 Training and Biomechanics

- (a) Fitness Components – health and skill related
- (b) Core Principles of Training
- (c) Warm ups and all forms of stretching
- (d) Muscular strength
- (e) Fitness

3.1.5 Health and Injuries and Rehabilitation

- (a) Injuries
- (b) Pain Cycle
- (c) Effects of poor health on the body and performance

3.2 Sport and Exercise Science for Grade 11: Content Overview

3.2.1 Anatomy and Physiology

- (a) Skeletal system
- (b) Muscular system
- (c) Cardiovascular system
- (d) Respiratory system
- (e) Thermoregulation
- (f) Vision
- (g) Effects of travel, including diet, on performance

3.2.2 Psychology and Ethics

- (a) Goals
- (b) Gender Stereotypes
- (c) Positive and negative impact of media on sport
- (d) Focus & concentration
- (e) Achievement Motivation
- (f) Communication
- (g) Feedback
- (h) Knowledge of performance
- (i) Information processing
- (j) Performance enhancing ergogenics

3.2.3 Nutrition

- (a) Energy
- (b) Fluids and their effect

3.2.4 Training and Biomechanics

- (a) Types of Training and the advantages and disadvantages of each
- (b) Training zones/heart rate zones
- (c) Core strength and how to train/improve it

- (d) Classification of levers
- (e) Types of forces found in sport
- (f) Velocity
- (g) Acceleration
- (h) Talent identification
- (i) Centre of gravity/mass
- (j) Performance differences between sexes
- (k) Relationship between strength and motor performance and size, physique, body composition and age
- (l) Motor patterns and skills

3.2.5 Health and Injuries and Rehabilitation

- (a) Injuries
- (b) Cardiopulmonary resuscitation (CPR)
- (c) Effects of poor health on the body and performance

3.3 Sport and Exercise Science for Grade 12: Content Overview

3.3.1 Anatomy and Physiology

- (a) Skeletal system
- (b) Muscular system
- (c) Adaptations to exercise/training
- (d) Recovery process following exercise
- (e) Blood redistribution during exercise
- (f) Vision

3.3.2 Psychology and Ethics

- (a) Stress
- (b) Arousal
- (c) Coping techniques:
- (d) Leadership styles
- (e) Nature versus nurture
- (f) Group dynamics
- (g) Factors impacting on growth and motor development and participation
- (h) Methods of controlling aggression

3.3.3 Nutrition

- (a) Energy systems and effects on exercise
- (b) Diet

3.3.4 Training and Biomechanics

- (a) Levers
- (b) Force summation
- (c) Drag and air resistance
- (d) Fluid forces/dynamics
- (e) Spin
- (f) Rotation
- (g) Inertia
- (h) Momentum
- (i) Angular, Linear & General motion
- (j) Effects of Centre of Gravity in sport
- (k) Newton's Laws in sport
- (l) Reaction time
- (m) Periodisation
- (n) Altitude
- (o) Exercise adherence
- (p) Long term athlete development
- (q) Overtraining and burnout
- (r) Slumps and staleness
- (s) Fatigue

3.3.5 Health and Injuries and Rehabilitation

- (a) Injuries
- (b) Risk management & safety at sports events
- (c) Hyperventilation
- (d) Hypothermia and Hyperthermia
- (e) Technology in sport

SECTION 4

ASSESSMENT

This chapter must be read in conjunction with the IEB Manual for the Moderation of School Based Assessment available on the IEB website.

In Grades 10 and 11 all assessment is internal. The requirements in this section are mandatory for Grade 12.

A. MEANS OF ASSESSMENT

Paper I: Theory 3 hours [300]
School Based Assessment (SBA) [100]

400 marks

B. REQUIREMENTS

1. EXAMINATIONS

	Theory Paper: 3 hours; 300 marks					
	Assesses					
Weighting of Cognitive Levels:	60%			40%		
	30% Knowledge	20% Comprehension	10% Application	10% Analysis	15% Synthesis	15% Evaluation

Theory Paper:	Sport and Exercise Science	
Time:	3 hours	Total Marks: 300
Structure of the paper:	A 20 mark argumentative writing response will be required The balance of the paper will consist of a variety of short and longer response type questions Each topic will be examined. All questions are compulsory.	

2. SCHOOL BASED ASSESSMENT (SBA)

SBA Item	Weighting
Preliminary Examination/Trial paper	25
Controlled test #1	15
Controlled test #2	15
Task 1: Compulsory Practical Task	15
Tasks 2 and 3: Chosen from the following options Assignment Project Oral Presentation Visual Task	2 x 15
TOTAL	100

C. INTERPRETATION OF REQUIREMENTS

1. EXAMINATION

The Assessment Syllabus

The purpose of this Assessment Syllabus is to assist IEB teachers in reaching a common understanding of the scope of the topics and therefore support schools in planning their teaching, learning and assessment programmes consistently, as well as to make the IEB examination and SBA requirements at grade 12 explicit for teachers, assessors and moderators.

The document is not meant to be a teaching syllabus. Individual teachers and schools are not restricted to the contents of the Assessment Syllabus; they are free to expand on these in their own curriculum delivery. The teaching and learning programme should be rich, stimulating and challenging, while assessment is focused on the assessment requirements of the subject, in its contribution to the qualification.

The Grade 10 and 11 assessment syllabi are included for information and guidance, but only the Grade 12 assessment syllabus is mandatory. However Sport and Exercise Science is a THREE year course and therefore learners should have an understanding of all terminology and concepts from previous grades where this forms the basis of work in the next grade(s).

The Assessment Syllabus comprises the following 5 topics

- Anatomy and Physiology
- Training and Biomechanics
- Psychology and Ethics
- Health and Injuries and Rehabilitation
- Nutrition

The Assessment Syllabus follows after the SBA requirements.

2. SCHOOL BASED ASSESSMENT

2.1 Preliminary Examination/Trial Paper (25 marks out of 100)

This component must come from the last major summative assessment to have taken place before the Final NSC Examination period. The examination should mimic the external examination in its design, rigour and format.

2.2 Controlled Tests (two tests: each to count 15 out of 100)

Controlled tests are written by the entire grade (preferably at the same time). These should count at least 50 marks each and must assess deeply within one Topic or across Topics. 60% of the marks should relate to lower order thinking skills (knowledge, comprehension and application) and 40% to higher order thinking skills (analysis, synthesis and evaluation).

2.3 Compulsory Practical Task (15 marks out of 100)

The focus of this task is Topic 4: Training and Biomechanics. However knowledge and skills relating to other topics may be required to demonstrate competence. The CPT must demonstrate the knowledge and skills that have been acquired during the year.

Each school is required to set their own task. It must be marked using a rubric or scoring sheet.

Learners are to be assessed individually. Under no circumstances are learners to be primed ahead of the CPT.

The task must be approximately 30 minutes long and a minimum of 50 marks.

2.4 Two of the following tasks (15 marks each out of 100)

These tasks must be done individually:

- **Assignment**
This is a written problem-solving task. The learners must be provided with clear guidelines. The assignment should be based on a current sporting or nutrition - related topic or issue. Information may be gathered from the internet, television, magazines and newspapers. Should it be possible and appropriate, individual experts could be interviewed.
- **Project**
This task must involve a series of sequential activities based around a sporting, training or nutritional theme with assigned resources culminating in a final outcome. The task should require evaluation and recommendations for improvement/s if applicable.
- **Oral Presentation**
This task requires a verbal presentation on a sporting or nutritional issue. The topic must require learners to gather and process information and then present it orally. The presentation must include an introduction, body and conclusion. Visual aids such as @Power

Point may be used to assist the learner. The content should be the main focus of attention and count for at least 80% of the mark. The delivery and presentation should not count for more than 20% of the mark. Hard copy evidence of the presentation must be included in the Learner's File. This could be in the form of cue cards or ©Power Point slides for example.

- **Visual Task**
This task should be a product that communicates information visually e.g. a brochure, booklet, educational poster or YouTube video. The product should be based on issues relating to the subject of Sports and Exercise Science. The content should count at least 80% of the marks. The presentation and appeal of the task should not count for more than 20% of the total mark. Hard copy evidence of the presentation must be included in the Learner's File.

Moderation at School Level

It is expected that moderation of the assessment process has taken place at school level to ensure that assessment is valid, fair and reliable. This includes moderation of assessments before they are done by learners, moderation of the marking of the learner evidence by the teacher/assessor and checking of the calculations of learners' results. Evidence of this having taken place must be included in both the Teacher's and Learner's Files.

SPORT AND EXERCISE SCIENCE ASSESSMENT SYLLABUS

TOPIC 1: ANATOMY AND PHYSIOLOGY		
Grade 10	Grade 11	Grade 12
<p>Skeletal system</p> <ul style="list-style-type: none"> - Structure and type of bones <ul style="list-style-type: none"> ▪ Long ▪ Short ▪ Irregular ▪ Flat - Functions of bones <ul style="list-style-type: none"> ▪ Protect ▪ Support ▪ Movement ▪ Blood production - Axial and appendicular skeletons <p>Muscular system</p> <ul style="list-style-type: none"> - Smooth, cardiac & skeletal - Names of muscles (see below) <p>Cardiovascular system</p> <ul style="list-style-type: none"> - Function (transport, temp control, protection) - Systemic circuit - Pulmonary circuit - Structure and function of blood vessels <ul style="list-style-type: none"> ▪ Arteries ▪ Veins ▪ Capillaries - Structure of the heart and cardiac cycle 	<p>Skeletal system</p> <ul style="list-style-type: none"> - Structure & function of joints <ul style="list-style-type: none"> ▪ Fixed ▪ Partly moveable ▪ Freely moveable/synovial ▪ Tendons ▪ Ligaments - Bone growth: ossification - Basic structure of bone tissue: <ul style="list-style-type: none"> ▪ Spongy bones ▪ Compact bones <p>Muscular system</p> <ul style="list-style-type: none"> - Structure of muscles – fibres - Slow versus fast twitch (structure and function) - Agonist versus antagonist - Structure of muscle spindles - Types of muscular contractions <ul style="list-style-type: none"> ▪ isotonic concentric contraction ▪ isotonic eccentric contraction ▪ isometric contraction <p>Cardiovascular system</p> <ul style="list-style-type: none"> - Effects of exercise on heart rate: stroke volume, cardiac output - Blood pressure (vasomotor control): long term effects of exercise on blood pressure <p>Respiratory system Ventilation during exercise</p>	<p>Skeletal system</p> <ul style="list-style-type: none"> - Joint movement, Range of Motion (ROM) - Planes of body <ul style="list-style-type: none"> ▪ Sagittal ▪ Frontal ▪ Transverse <p>Muscular system</p> <ul style="list-style-type: none"> - Function of muscle spindles - Function of Sliding filament - Function of Golgi tendon - Function of Proprioceptors <p>Adaptations to exercise/training</p> <ul style="list-style-type: none"> - Cardiovascular adaptations - Respiratory adaptations, including altitude - Muscular adaptations <p>Recovery process following exercise</p> <ul style="list-style-type: none"> - Oxygen debt - Excess Post-Exercise Oxygen Consumption (EPOC) - Alactacid debt - Lactacid debt <p>Blood redistribution during exercise</p> <ul style="list-style-type: none"> - Vascular shunt - Venous return

<p>Respiratory system Structure & function of:</p> <ul style="list-style-type: none"> ▪ Trachea ▪ Bronchi ▪ Bronchioles ▪ Lungs ▪ Alveoli <p>Circulatory system</p> <ul style="list-style-type: none"> - Function of blood - Blood composition - Function of: <ul style="list-style-type: none"> ▪ Red cells ▪ White cells ▪ Platelets ▪ Plasma <p>Somatotypes and plotting on somatograph</p> <p>Anatomical terms</p> <ul style="list-style-type: none"> - Anterior, posterior - Medial, lateral - Proximal, distal - Deep, superficial - Prone, supine - Flexion, extension - Dorsiflexion, plantarflexion - Adduction, abduction - Supination, pronation - Rotation, circumduction <p>Sleep and effects of sleep deprivation on performance</p>	<p>Thermoregulation</p> <p>Vision</p> <ul style="list-style-type: none"> - Structure and function of the eye, including binocular vision and accommodation - Eye-hand co-ordination, depth perception, peripheral vision <p>Effects of travel, including diet, on performance</p>	<p>Vision</p> <ul style="list-style-type: none"> (a) Dynamic visual acuity (b) Eye tracking (c) Visual concentration (d) Visual reaction time
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Muscles to study:

Pectoralis major; rectus abdominus, gluteal muscle, internal & external obliques, erector spinae, trapezius, latissimus dorsi, serratus anterior, triceps, biceps, quads, hamstring, iliopsoas, soleus, tibialis anterior, gastrocnemius

Bones to study:

Cranium, clavicle, scapula, sternum, ribs, humerus, radius, ulna, ilium, sacrum, pubis, carpals, metacarpals, phalanges, femur, patella, tibia, fibula, tarsals, metatarsals, vertebral column, differentiate between lumbar, thoracic and cervical bones in spine

TOPIC 2: PSYCHOLOGY AND ETHICS

Grade 10	Grade 11	Grade 12
<p>Personality types</p> <ul style="list-style-type: none"> - A and B and their impact on sport - Motivation: intrinsic and extrinsic - Definition & symptoms of: <ul style="list-style-type: none"> ▪ Cognitive anxiety ▪ Somatic anxiety ▪ State anxiety ▪ Trait anxiety ▪ Competitive anxiety <p>Sportsmanship including</p> <ul style="list-style-type: none"> - Code of Conduct - Ethics - Morals - Etiquette <p>Examples of unethical behaviour e.g. sledging, ball tampering, rule violation</p> <p>Aggression</p> <ul style="list-style-type: none"> - Types of aggression <ul style="list-style-type: none"> ▪ Hostile aggression ▪ Channelled aggression - Causes of aggression <ul style="list-style-type: none"> ▪ Social learning ▪ Instinct theory ▪ Frustration aggression ▪ Aggressive cue 	<p>Goals</p> <ul style="list-style-type: none"> - Types: short, medium, long - Goal setting - SMARTER <p>Gender Stereotypes</p> <p>Positive and negative impact of media on sport</p> <p>Focus & concentration</p> <p>Achievement Motivation</p> <ul style="list-style-type: none"> - High need to achieve (Nach) - Low Nach - High need to avoid failure (Naf) - Low Naf <p>Communication</p> <ul style="list-style-type: none"> - Verbal communication - Non - verbal communication <p>Feedback</p> <ul style="list-style-type: none"> - Positive feedback - Negative feedback - General feedback - Intrinsic feedback - Extrinsic feedback <p>Knowledge of performance</p>	<p>Stress</p> <p>Causes of stress and eustress and the impact on performance</p> <p>Arousal</p> <ul style="list-style-type: none"> - Positive and negative effects of arousal in sport <ul style="list-style-type: none"> ▪ Hull ▪ Yerkes and Dodson inverted U ▪ Different sports/skills - Catastrophe theory <p>Coping techniques:</p> <ul style="list-style-type: none"> - Self talk - Imagery - Visualisation - Relaxation methods: progressive relaxation, breathing control <p>Leadership styles</p> <ul style="list-style-type: none"> - Autocratic - Democratic - Laissez-faire - Task-centered - Relationship-centered <p>Nature versus nurture</p> <ul style="list-style-type: none"> - Different theories <ul style="list-style-type: none"> ▪ Interactional approach ▪ Trait theory

	<p>Information processing</p> <ul style="list-style-type: none"> - Input - Decision making <ul style="list-style-type: none"> ▪ Limited channel capacity ▪ Selective attention - Output - Feedback <p>Performance enhancing ergogenics</p> <ul style="list-style-type: none"> - Effects on the body and performance - Stimulants, beta-blockers, diuretics, steroids, blood doping - Other mechanical aids e.g. prosthetics <p>Drug testing process</p>	<p>Group dynamics</p> <ul style="list-style-type: none"> - Group size, Ringelmann effect, Social loafing - Forming, storming, norming, performing - Team cohesion: social, task <p>Factors impacting on growth and motor development and participation</p> <ul style="list-style-type: none"> - Socio-economic status, nutrition, family size, climate, quota system, race discrimination, sex discrimination, disability <p>Methods of controlling aggression</p> <ul style="list-style-type: none"> - Cognitive - Somatic
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TOPIC 3: NUTRITION

Grade 10	Grade 11	Grade 12
<p>Food groups and portion size</p> <p>Basal metabolic rate</p> <p>Importance and relevance of each of the following organic compounds to an athlete:</p> <ul style="list-style-type: none"> - Fats <ul style="list-style-type: none"> ▪ Saturated ▪ Monounsaturated ▪ Polyunsaturated - Carbohydrates <ul style="list-style-type: none"> ▪ Simple ▪ Complex - Protein <p>Importance and relevance of each of the following minerals to an athlete</p> <ul style="list-style-type: none"> - Iron - Calcium - Magnesium - Sodium - Potassium - Zinc <p>Basic cell structure covering</p> <ul style="list-style-type: none"> - Nucleus - Mitochondria - Cell membrane - Cytoplasm 	<p>Energy</p> <ul style="list-style-type: none"> - Role of ATP as an energy-carrier in the cell - Types of energy systems - ATP/PC or Alactic system - Lactic Acid system or Glycolytic - Aerobic or Oxidative <p><i>[no biochemical detail of glycolysis, Krebs cycle or oxidative phosphorylation is required]</i></p> <ul style="list-style-type: none"> - Types of energy drinks <p>Fluids and their effect</p> <ul style="list-style-type: none"> - Hydration - Dehydration - Over-hydration 	<p>Energy systems and effects on exercise</p> <ul style="list-style-type: none"> - Energy output per system - Thresholds - Types of training that affect energy system/s <p>Diet</p> <ul style="list-style-type: none"> - Pre, during, post exercise/performance including hydration - Low versus High GI foods for an athlete - Interpreting food labels for an athlete <ul style="list-style-type: none"> ▪ Appropriate quantities of essential nutrients ▪ Understanding ingredients in supplements ▪ Determining whether food is healthy or not by correctly interpreting data on label ▪ Determining whether food is sport specific by correctly interpreting data on label - Effects of diet on the body and performance: - Eating disorders <ul style="list-style-type: none"> ▪ Anorexia ▪ Bulimia ▪ Obesity

TOPIC 4: TRAINING AND BIOMECHANICS

Grade 10	Grade 11	Grade 12
<p>Fitness Components</p> <p>Health related</p> <ul style="list-style-type: none"> - Cardiorespiratory endurance - Muscular endurance - Muscular strength - Body composition - Flexibility <p>Skill related</p> <ul style="list-style-type: none"> - Power - Speed - Agility - Co-ordination - Reactions - Balance - Neuromuscular skills <p>Core Principles of Training</p> <ul style="list-style-type: none"> - Frequency - Intensity - Duration - Overload - Specificity - Adaptation - Regularity - Reversibility - Rest and recovery <p>Warm ups and all forms of stretching</p> <p>Muscular strength</p> <ul style="list-style-type: none"> - Static - Dynamic - Explosive <p>Ways to improve flexibility – isometric and dynamic</p>	<p>Types of Training and the advantages and disadvantages of each</p> <ul style="list-style-type: none"> - Circuits, - Interval training (short & long), - Continuous training, - Weight training (isotonic, isokinetic, isometric); - Fartlek, - Plyometric <p>Training zones/heart rate zones</p> <ul style="list-style-type: none"> - Cardio - Strength <p>Core strength and how to train/improve it</p> <p>Classification of levers</p> <p>Types of forces found in sport</p> <p>Velocity</p> <p>Acceleration</p> <p>Motor patterns and skills</p> <ul style="list-style-type: none"> - Learning skills - Cognitive - Associative - Autonomous - Whole part whole - Mass - Distributive - Complex versus simple skills - Open versus closed skills 	<p>Levers</p> <ul style="list-style-type: none"> - Effects of levers and lever length in sport <p>Force summation</p> <p>Drag and air resistance</p> <ul style="list-style-type: none"> - Bernoulli principle <p>Fluid forces/dynamics</p> <p>Spin</p> <ul style="list-style-type: none"> - Magnus effect - Top spin - Side spin - Back spin - Effects of playing surfaces on an object <p>Rotation</p> <ul style="list-style-type: none"> - Implication in sport <p>Inertia</p> <p>Momentum</p> <p>Angular, Linear & General motion</p> <p>Effects of Centre of Gravity in sport</p> <p>Newton's Laws in sport</p> <ul style="list-style-type: none"> - Define and apply in sport <p>Reaction time</p> <p>Periodisation</p>

<p>Fitness</p> <ul style="list-style-type: none"> - Definition - Factors that affect fitness <ul style="list-style-type: none"> ▪ Age ▪ Sex ▪ Somatotype ▪ Strength, power, flexibility, stamina ▪ Diet ▪ Neuromuscular skill ▪ Heredity ▪ Drug use ▪ Environment - Fitness training process: warm up, fitness phase, skill phase, warm down - Fitness testing - Different tests for different fitness components - Reliability of fitness testing 	<ul style="list-style-type: none"> - Transfer of skills <ul style="list-style-type: none"> ▪ Guidance: visual, verbal, manual - Fine versus gross motor skills <p>Talent identification</p> <p>Centre of gravity/mass</p> <p>Performance differences between sexes</p> <p>Relationship between strength and motor performance and:</p> <ul style="list-style-type: none"> - Size - Physique - Body composition - Age 	<p>Altitude</p> <ul style="list-style-type: none"> - Effects of altitude and various types of altitude training on performance <p>Exercise adherence</p> <p>Long term athlete development</p> <ul style="list-style-type: none"> - Managing focus, volume and type of training applied to athletes as they develop through adolescence into adulthood. <p>Overtraining and burnout</p> <p>Slumps and staleness</p> <p>Fatigue</p> <ul style="list-style-type: none"> - Definition - Causes - Symptoms (mental & physical) - Prevention - Treatment & recovery
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TOPIC 5: HEALTH, INJURIES AND REHABILITATION

Grade 10	Grade 11	Grade 12
<p>Injuries</p> <ul style="list-style-type: none"> - Causes and treatment of: <ul style="list-style-type: none"> ▪ Blisters ▪ Cramps ▪ Nose bleeds ▪ Asthma ▪ Fractures ▪ Strains ▪ Sprains ▪ Contusions ▪ Concussion ▪ Shin splints ▪ Stitch <p>Pain Cycle RICER/R (Rest, Ice, Compression, Elevation and Referral)</p> <p>Effects of the following on the body and performance:</p> <ul style="list-style-type: none"> - Smoking - Tuberculosis - Alcohol 	<p>Injuries</p> <ul style="list-style-type: none"> - Causes and treatment of: <ul style="list-style-type: none"> ▪ Ligament damage, ▪ Dislocations, ▪ Joint injury, ▪ Tendon damage, ▪ Muscle tears - Strategies to avoid above injuries <p>Cardiopulmonary resuscitation (CPR)</p> <p>Effects of the following on the body and performance:</p> <ul style="list-style-type: none"> ▪ Blood pressure ▪ Cholesterol ▪ Diabetes ▪ Cardiovascular diseases e.g. atherosclerosis and arteriosclerosis ▪ Bone disorders that will impact on movement e.g. osteoporosis 	<p>Injuries</p> <ul style="list-style-type: none"> - Causes and treatment of overuse injuries - Strategies to avoid overuse injuries <p>Risk management & safety at sports events</p> <p>Hyperventilation</p> <ul style="list-style-type: none"> - Causes and treatment <p>Hypothermia and Hyperthermia</p> <ul style="list-style-type: none"> - Effects on physical and mental performance - Treatment for hypothermia & hyperthermia <p>Technology in sport</p> <ul style="list-style-type: none"> - Facilities - Equipment - Clothing

D. ADMINISTRATIVE DOCUMENTS AND APPENDICES

1. ADMINISTRATIVE DOCUMENTATION FOR SBA

- 1.1 Cover Sheet for Teacher's File
- 1.2 Cover Sheet for Learner's File
- 1.3 Teacher's Record of SBA Marks
- 1.4 Rank Order List
- 1.5 National Moderation Tool
- 1.6 Final Moderation Feedback form to IEB
- 1.7 Example of Letter of Authenticity
- 1.8 Example of Declaration of Omissions

2. APPENDICES

- 2.1 Appendix A: Example of Design Grid

1.1 TEACHER'S SBA COVER SHEET



**NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
COVER SHEET FOR TEACHER'S FILE**

School:
Teacher's Name:

SUPPORTING DOCUMENTATION		Evidence provided
1	IEB Moderation Selection List (where Learner Files have been requested)	
2	Teacher's Record of SBA Marks	
3	Rank Order List for ALL Learners in the grade	
4	Evidence of School (or External if one person department) Moderation	

EVIDENCE OF SBA ITEMS

This Section must contain:

- All assessments done by learners.
- Design grids for the exams and tests
- Marking Guidelines for each assessment (Memoranda, Rubrics, etc.)

Preliminary Examination	
Controlled Test 1	
Controlled Test 2	
Compulsory Practical Task	
Option 1: Assignment	
Option 2: Project	
Option 3: Oral Presentation	
Option 4: Visual Task	

1.2 CANDIDATE'S SBA COVER SHEET



**NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
COVER SHEET FOR LEARNER'S FILE**

(To be filled in by the candidate and controlled by the teacher)

Centre Number Candidate's Examination number

No	Task	Date	Raw Score	Weighted Final Mark
1	Prelim Exam			/25
2	Controlled Test 1			/15
	Controlled Test 2			/15
4	Compulsory Practical Task			/15
5	Option 1:			/15
6	Option 2:			/15
			Total (100)	

Educator: _____

Learner: _____

Date: _____

Date: _____

1.4 SBA RANK ORDER SHEET



NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
SBA RANK ORDER LIST

CENTRE NO

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CANDIDATES LISTED IN RANK ORDER OF MARKS (HIGHEST TO LOWEST)

EXAMINATION NUMBER

MARK – 100

1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
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1.5 REGIONAL AND NATIONAL MODERATION TOOL



**NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
NATIONAL MODERATION TOOL**

SCHOOL	DATE
TEACHER'S NAME	CENTRE NO:
MODERATOR	

Compliance	Completed Teacher's SBA Cover Sheet included	IEB Selection List included (if applicable)	Mark Schedule completed correctly and signed by the Principal	Completed Rank Order List included	Record of Skills Covered in Practical completed correctly	Proof of School/External Moderation provided	Irregularities clearly documented
	This row applies to Learner's SBA only	Suitable file used	Completed and correct Learner's SBA Cover Sheet included	Declaration of Authenticity provided	Declaration of Omissions provided		

Rating Scale 1. Does not meet the requirements at all. 2. Some important omissions. 3. Some minor omissions. 4. Meets the requirements fully.								
Quality	Evidence of ...	Clear instructions/ question papers provided	Task of required rigour	Completed Grid to justify design	Appropriate and clear Marking Guidelines	Consistent assessment against marking guidelines	Constructive feedback to learners	Comments with regards to compliance with SAGs
	Preliminary Examination							
	Controlled Test 1							
	Controlled Test 2							
	Compulsory Practical Task							
	Option 1:							
	Option 2:							

Moderator's Signature: _____ **Date:** _____



**NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
FINAL MODERATION FEEDBACK FORM**

To be completed and retained by the IEB

Examination Centre Number: _____

The candidates required to submit Learner Files for moderation (candidates supplied by IEB)

Examination number	School Mark (%)	Moderated Mark (%)

Comments:

Recommendations:

SBA MARKS SHOULD BE ACCEPTED WITHOUT ALTERATION	Yes	No
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Change recommended by moderator: _____

Change to be implemented: _____

SBA Moderator's signature _____ Date: _____

1.7 LETTER OF AUTHENTICITY



**NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
LETTER OF AUTHENTICITY**

School Letterhead

DECLARATION BY THE CANDIDATE

I hereby declare that all the work contained in this SBA is my own, original work and that if I have made use of any source, I have acknowledged this.

LEARNER NAME

DATE

I agree that, if it is determined by the competent authorities that I have engaged in any fraudulent activities whatsoever in connection with the contents of my SBA, I shall forfeit completely the marks gained for this assessment.

LEARNER NAME

DATE

DECLARATION BY THE CANDIDATE'S TEACHER

As far as I know, the above statement by the candidate is true and I accept that the work offered is his/hers.

TEACHER

DATE

1.8 DECLARATION OF OMISSIONS



NATIONAL SENIOR CERTIFICATE EXAMINATION
SPORT AND EXERCISE SCIENCE
DECLARATION OF OMISSIONS

To be included in place of a missing SBA piece

SCHOOL LETTERHEAD

Learner Name: _____ **Grade:** _____

SBA Task: _____

The learner has failed to include the set SBA task for the following reason:

	Illness. <i>Doctor's note attached.</i>
	The completed task is lost, but a mark is recorded.
	Absenteeism. <i>I hereby acknowledge the fact that I have failed to report on an alternate date to complete my Sport and Exercise Science SBA Task. This means I will receive 0% for the task. I am completely to blame for my own failure to complete the task on time or not at all.</i>
	Failed to hand in the task. <i>I hereby acknowledge the fact that I have failed to hand in a Sport and Exercise Science SBA Task. This means I will receive 0% for the task. I am completely to blame for my own failure to hand in the task on time or not at all.</i>
	Other:

The learner will have the following assessment reflected on the mark sheet for the task

Teacher's Signature

DATE

Learner's Signature

DATE

