

High School Subject Choices

Subjects

Mathematics.....	1
Mathematical Literacy	2
Accounting.....	3
History.....	3
Geography	4
Physical Sciences	5
Business Studies	6
Computer Applications Technology.....	7
Life Sciences.....	7
Tourism	8
Music.....	9

A concise subject overview

Mathematics

Mathematics is a language that makes use of symbols and notations for describing numerical, geometric and graphical relationships.

It is a human activity that involves observing, representing and investigating patterns and qualitative relationships in physical and social phenomena and between mathematical objects themselves. It helps to develop mental processes that enhance logical and critical thinking, accuracy and problem solving that will contribute in decision-making. Mathematical problem solving enables us to understand the world (physical, social and economic) around us, and, most of all, to teach us to think creatively.

Specific Aims of Mathematics

1. To develop fluency in computation skills without relying on the usage of calculators.
2. Mathematical modelling is an important focal point of the curriculum. Real life problems should be incorporated into all sections whenever appropriate. Contextual problems should include issues relating to health, social, economic, cultural, scientific, political and environmental issues whenever possible.
3. To provide the opportunity to develop in learners the ability to be methodical, to generalize, make conjectures and try to justify or prove them.
4. To be able to understand and work with number system.
5. To show Mathematics as a human creation by including the history of Mathematics.

6. To promote accessibility of Mathematical content to all learners. It could be achieved by catering for learners with different needs.
7. To develop problem-solving and cognitive skills. Teaching should not be limited to “how” but should rather feature the “when” and “why” of problem types. Learning procedures and proofs without a good understanding of why they are important will leave learners ill-equipped to use their knowledge in later life.
8. To prepare the learners for further education and training as well as the world of work.

Mathematical Literacy

The competencies developed through Mathematical Literacy allow individuals to make sense of, participate in and contribute to the twenty-first century world — a world characterised by numbers, numerically based arguments and data represented and misrepresented in a number of different ways.

Such competencies include the ability to reason, make decisions, solve problems, manage resources, interpret information, schedule events and use and apply technology. Learners must be exposed to both mathematical content and real-life contexts to develop these competencies.

Mathematical content is needed to make sense of real-life contexts; on the other hand, contexts determine the content that is needed. The subject Mathematical Literacy should enable the learner to become a self-managing person, a contributing worker and a participating citizen in a developing democracy. The teaching and learning of Mathematical Literacy should thus provide opportunities to analyse problems and devise ways to work mathematically in solving such problems. Opportunities to engage mathematically in this way will also assist learners to become astute consumers of the mathematics reflected in the media.

There are five key elements of Mathematical Literacy.

- Mathematical Literacy involves the use of elementary mathematical content. The mathematical content of Mathematical Literacy is limited to those elementary mathematical concepts and skills that are relevant to making sense of numerically and statistically based scenarios faced in the everyday lives of individuals (self-managing individuals) and the workplace (contributing workers), and to participating as critical citizens in social and political discussions.
- Mathematical Literacy involves authentic real-life contexts. In exploring and solving real-world problems, it is essential that the contexts learners are exposed to in this subject are authentic (i.e. are drawn from genuine and realistic situations) and relevant, and relate to daily life, the workplace and the wider social, political and global environments. kg, etc. In other words, mathematical content is simply one.
- Mathematical Literacy involves solving familiar and unfamiliar problems. It is unrealistic to expect that in the teaching of Mathematical Literacy learners will always be exposed

to contexts that are specifically relevant to their lives, and that they will be exposed to all of the contexts that they will one day encounter in the world.

- Mathematical Literacy involves decision making and communication
- Mathematical Literacy involves the use of integrated content and/or skills in solving problems.

Accounting

Accounting focuses on measuring performance, and processing and communicating financial information about economic sectors. This discipline ensures that principles such as ethical behaviour, transparency and accountability are adhered to.

It deals with the logical, systematic and accurate selection and recording of financial information and transactions, as well as the compilation, analysis, interpretation and communication of financial statements and managerial reports for use by interested parties. The subject encompasses accounting knowledge, skills and values that focus on the financial accounting, managerial accounting and auditing fields. These fields cover a broad spectrum of accounting concepts and skills to prepare learners for a variety of career opportunities.

Accounting learners will be able to:

- record, analyse and interpret financial and other relevant data in order to make informed decisions;
- present and/or communicate financial information effectively by using generally accepted accounting practice in line with current developments and legislation;
- develop and demonstrate an understanding of fundamental accounting concepts;
- relate skills, knowledge and values to real-world situations in order to ensure the balance between theory and practice, to enter the world of work and/or to move to higher education, and to encourage self-development;
- organise and manage own finances and activities responsibly and effectively;
- apply principles to solve problems in a judicious and systematic manner in familiar and unfamiliar situations, thus developing the ability to identify and solve problems in the context of the various fields of Accounting;
- develop critical, logical, and analytical abilities and thought processes to enable learners to apply skills to current and new situations;
- develop the following characteristics: - ethical behaviour - sound judgement - thoroughness - orderliness - accuracy - neatness;
- deal confidently with the demands of an accounting occupation manually and/or electronically

History

History is the study of change and development in society over time and space. It also draws on archaeology, palaeontology, genetics and oral history to interrogate the past. The study

of History enables us to understand and evaluate how past human action impacts on the present and influences the future.

Purpose of History:

A study of History builds the capacity of people to make informed choices in order to contribute constructively to society and to advance democracy. As a vehicle of personal empowerment, History engenders in learners an understanding of human agency. This brings with it the knowledge that, as human beings, learners have choices, and that they can make the choice to change the world for the better.

A rigorous process of historical enquiry:

- encourages and assists constructive debate through careful evaluation of a broad range of evidence and diverse points of view;
- provides a critical understanding of socio-economic systems in their historical perspective and their impact on people; and
- supports the view that historical truth consists of a multiplicity of voices expressing varying and often contradictory versions of the same history. The study of History supports democracy by:
- engendering an appreciation and an understanding of the democratic values of the Constitution;
- encouraging civic responsibility and responsible leadership;
- promoting human rights, peace, and democracy; and
- fostering an understanding of identity as a social construct, preparing future citizens for local, regional, national, continental and global citizenship.

As a vehicle for human rights, History:

- enables people to examine with greater insight and understanding the prejudices involving race, class, gender, ethnicity and xenophobia still existing in society and which must be challenged and addressed; and
- enables us to listen to formerly-subjugated voices, and focuses on the crucial role of memory in society.

Geography

Geography is the study of human and physical environments. It is a subject that combines topics related to physical and human processes over space and time. With the use of Geography, we can better understand our complex world.

There are many branches of study in Geography.

For example, in Physical Geography, we examine natural processes and features, including the atmosphere, landforms and ecosystems.

In Human Geography, we investigate the activities and impact of people on Earth. The concept that unifies Geography is space. All geographical phenomena have a spatial dimension and operate in a continuously changing environment.

Specific aims of Geography:

During Grades 10, 11 and 12 learners are guided towards developing the following knowledge, skills and attitudes:

- explaining and interpreting both physical and human geographical processes;
- describing and explaining the dynamic interrelationship between the physical and human worlds;
- developing knowledge about where places are, and the nature of a range of different places at different scales;
- practising essential transferable skills – literacy, numeracy, oracy and graphicacy;
- promoting the use of new technologies, such as Information Communication Technology (ICT) and Geographical Information Systems (GIS);
- developing a commitment towards sustainable development;
- creating awareness and sensitivity to inequality in the world;
- fostering empathy, tolerance and fairness; and
- making and justifying informed decisions and judgements about social and environmental issues

Physical Sciences

Physical Sciences investigate physical and chemical phenomena. This is done through scientific inquiry, application of scientific models, theories and laws in order to explain and predict events in the physical environment. This subject also deals with society's need to understand how the physical environment works in order to benefit from it and responsibly care for it. All scientific and technological knowledge, including Indigenous Knowledge Systems (IKS), is used to address challenges facing society.

Indigenous knowledge is knowledge that communities have held, used or are still using; this knowledge has been passed on through generations and has been a source of many innovations and developments including scientific developments. Some concepts found in Indigenous Knowledge Systems lend themselves to explanation using the scientific method while other concepts do not; this is still knowledge however.

Specific aims of Physical Sciences:

The purpose of Physical Sciences is to make learners aware of their environment and to equip learners with investigating skills relating to physical and chemical phenomena, for example, lightning and solubility.

Examples of some of the skills that are relevant for the study of Physical Sciences are classifying, communicating, measuring, designing an investigation, drawing and evaluating

conclusions, formulating models, hypothesising, identifying and controlling variables, inferring, observing and comparing, interpreting, predicting, problem-solving and reflective skills.

Physical Sciences promotes knowledge and skills in scientific inquiry and problem solving; the construction and application of scientific and technological knowledge; an understanding of the nature of science and its relationships to technology, society and the environment.

Physical Sciences prepare learners for future learning, specialist learning, employment, citizenship, holistic development, socio-economic development, and environmental management. Learners choosing Physical Sciences as a subject in Grades 10-12, including those with barriers to learning, can have improved access to: academic courses in Higher Education; professional career paths related to applied science courses and vocational career paths.

Physical Sciences plays an increasingly important role in the lives of all South Africans owing to their influence on scientific and technological development, which are necessary for the country's economic growth and the social wellbeing of its people.

Six main knowledge areas inform the subject Physical Sciences:

These are:

- Matter and Materials
- Chemical Systems
- Chemical Change
- Mechanics
- Waves, Sound and Light
- Electricity and Magnetism

Business Studies

The subject Business Studies deals with the knowledge, skills, attitudes and values critical for informed, productive, ethical and responsible participation in the formal and informal economic sectors. The subject encompasses business principles, theory and practice that underpin the development of entrepreneurial initiatives, sustainable enterprises and economic growth.

Business Studies will ensure that learners:

- acquire and apply essential business knowledge, skills and principles to productively and profitably conduct business in changing business environments;
- create business opportunities, creatively solve problems and take risks, respecting the rights of others and environmental sustainability;
- apply basic leadership and management skills and principles while working with others to accomplish business goals;

- are motivated, self-directed, reflective lifelong learners who responsibly manage themselves and their activities while working towards business goals;
- are committed to developing themselves and others through business opportunities and ventures;
- are able to secure formal employment, and are in a position to pursue sustainable entrepreneurial and self-employment career pathways.

Computer Applications Technology

What is Computer Applications Technology? Computer Applications Technology is the study of the integrated components of a computer system (hardware and software) and the practical techniques for their efficient use and application to solve everyday problems. The solutions to problems are designed, managed and processed via end-user applications and communicated using appropriate information and communication technologies (ICTs). ICTs are the combination of networks, hardware and software as well as the means of communication, collaboration and engagement that enable the processing, management and exchange of data, information and knowledge.

Specific aims of Computer Applications Technology:

In Computer Applications Technology a learner will:

- use end-user software applications proficiently to produce solutions to problems within a defined scenario;
- understand the concepts of ICTs with regard to the technologies that make up a computing system;
- understand the various technologies, standards and protocols involved in the electronic transmission of data via a computer-based network;
- use the Internet and the WWW and understand the role that the Internet plays as part of the global information superhighway;
- find authentic and relevant information, process the information to draw conclusions, make decisions and communicate the findings in appropriate presentation media; and
- recognise the legal, ethical, environmental, social, security and health issues related to the use of ICTs and learn how to use ICTs responsibly

Life Sciences

'Life Sciences' is the scientific study of living things from molecular level to their interactions with one another and their environments. To be accepted as a science, it is necessary to use certain methods for broadening existing knowledge, or discovering new things. These methods must lend themselves to replication and a systematic approach to scientific inquiry.

The methods include formulating hypotheses and carrying out investigations and experiments as objectively as possible to test these hypotheses. Repeated investigations are

carried out and adapted. The methods and results are analysed, evaluated and debated before the community of scientists accepts them as valid. Knowledge production in science is an ongoing endeavour that usually happens gradually but, occasionally, knowledge and insights take a leap forward as new knowledge, or a new theory, replaces what was previously accepted. As with all knowledge, scientific knowledge changes over time as scientists improve their knowledge and understanding and as people change their views of the world around them.

Scientific investigations are mostly about things that are poorly understood or not understood at all. Scientists are frequently involved in debates and disagreements. As more people take on such investigations, they tend to reach consensus about the ways in which the world works. The science theory that is taught in schools has been tested and is generally accepted. A good teacher will inform learners of debates and arguments among the scientists who were the first to investigate a phenomenon. Scientists continue to explore the unknown. They tackle questions to which no-one has definite answers, such as: 'Why is the climate changing?'; 'What is causing the universe to expand?'; 'What causes the Earth's magnetic field to change?'; and 'What, exactly, is the human mind?'

By studying and learning about Life Sciences, learners will develop:

- their knowledge of key biological concepts, processes, systems and theories;
- an ability to critically evaluate and debate scientific issues and processes;
- greater awareness of the ways in which biotechnology and knowledge of Life Sciences have benefited humankind;
- an understanding of the ways in which humans have impacted negatively on the environment and organisms living in it;
- a deep appreciation of the unique diversity of past and present biomes in Southern Africa and the importance of conservation;
- an awareness of what it means to be a responsible citizen in terms of the environment and life-style choices that they make;
- an awareness of South African scientists' contributions;
- scientific skills and ways of thinking scientifically that enable them to see the flaws in pseudo-science in popular media; and
- a level of academic and scientific literacy that enables them to read, talk about, write and think about biological processes, concepts and investigations.

Tourism

Tourism is the study of the activities, services and industries that deliver a travel experience to groups or individuals. It is the study of the expectations and behaviour of tourists, and the economic, social and environmental impact of tourism on South Africa.

Specific aims of Tourism:

In the subject Tourism learners will study

- different types of tourists and the purpose of their travelling;
- the different tourism sectors, with special reference to transport, hospitality, travel organising and support services, and the attraction sector;
- map work;
- foreign exchange concepts and the buying power of different foreign currencies;
- the influence of world time zones on travel;
- South Africa and the SADC countries as tourism destinations;
- world famous icons and World Heritage Sites;
- sustainable and responsible tourism;
- marketing of tourism products;
- technology in tourism;
- customer care and the value of service excellence; and
- tour planning.

Music

Music is the art of organising sounds and silence, expressing intellectual, emotional and spiritual aspects of human experience. Music is an art form that can be combined with other forms, and is often enhanced by technology. It can communicate a broad range of historical, cultural and socioeconomic ideas and issues. Music has the power to unite groups and to mobilise community involvement for the improvement of quality of life, social healing, and affirmation of human dignity.

Specific aims of Music:

Grade 10 - 12 Music learners will develop:

- technical control over one or more music instrument(s) or the voice;
- performance skills by way of performing a wide variety of musical works, in solo and group (ensemble) context, ranging from Western art music and jazz to indigenous African music (IAM);
- ability to read music notation(s);
- creativity through improvisation and working with own music ideas;
- understanding of existing works of music with regard to compositional techniques used, application of musical elements in existing musical works and placing these in a specific historical and cultural context;
- awareness of various musical traditions; and
- appreciation for various styles of music.