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SUBJECT CHOICES

In order to obtain the National Senior Certificate in Grade 12, learners must have **SEVEN SUBJECTS**, four compulsory and three which are chosen towards the end of Grade 9 for Grade 10 – 12. The four compulsory subjects are: two official Languages (one Home Language and one First Additional Language); Mathematics or Mathematical Literacy and Life Orientation. During the third term of the Grade 9 year, learners must choose three optional subjects from a list of subjects offered at the school.

The subject packages are available on the subject choice form.

Why is it important for learners to make informed subject choices?

The subject choices at the end of Grade 9 could determine the field of study learners can follow once they complete school.

In other words, if learners do not select the correct combination of subjects, they could find themselves unable to enter into certain higher or further education programmes. So when making this important subject choice, learners should consider their options for when they complete school and select accordingly.

It is also very important, however, to be realistic and to choose subjects that you enjoy and subjects that you are good at.

Further Studies after Grade 12

Choosing the right subjects is only the first step to getting into a university, university of technology or FET College.

Learners also have to have certain levels of achievement to meet the entry requirements for that particular qualification. One way for universities to measure your level of achievement is with a point rating system (APS); no matter what kind of tools universities use as entry requirements, the bottom line is that the better you perform in all your subjects, the more options you have.

When you apply for further studies at an institution, they will require your Grade 11 subject marks before you have written the National Senior Certificate.

Please note the following points:

1. Availability of subjects and subject packages depends on staffing considerations and upon a significant number of boys opting for the subject on a particular line.

2. Certain subjects [Information Technology, Dramatic Arts, Economics, Business Studies and History] may be offered as eighth subjects. Tuition in these subjects will take place, usually once a week, after school hours. Only boys who are well above average academically will be considered and the subject will be offered only if the numbers make this economically viable and if we have a teacher who is available to help these boys. Taking an eighth subject requires independent study, and all tests, assignments required for that subject must be completed.

3. Please take note that Physical Sciences is the most demanding and difficult subject in the present curriculum and it requires considerable ability and a sound work ethic if a boy is to achieve in this subject area. Learners at Maritzburg College will only be permitted to take Physical Sciences in 2019 if they qualify to do so. This qualification will be based on the following criteria:
    - Based on rank order, the top 150 learners in Grade 9 automatically qualify, should they choose to take this subject
    - If a learner's Maths mark is 50% or above, he will need to obtain at least 50% for the Physical Sciences component of Natural Sciences in his Grade 9 year

4. Boys choosing the 'double science' option (Physical and Life Sciences) should be of above average academic ability (with an aggregate of at least 70%).

5. In order to choose Music, a boy needs to be proficient in playing an instrument and should (preferably) have passed a few practical exams in this discipline.

6. As Accounting is a very demanding subject academically; boys choosing Accounting must have achieved at least 50% for EMS and Mathematics in Grade 9, and are required to have a very sound work-ethic.

7. Boys should give serious thought to their subject choices as they are advised to change as few as possible over the next three years. No subject changes will be permitted in the Grade 12 year.

SUBJECT SPECIFIC INFORMATION

ACCOUNTING

An Accountant has to be a dynamic person with leadership qualities and have strong language and people skills.

Skills required

- Accounting is an academic subject – and you should achieve at least 55% for Grade 9 EMS
- You must be proficient in Mathematics or Mathematical Literacy
- You must have good English comprehension skills
- You must have a good work ethic
- An ability to stay focussed during class is essential

Career Opportunities:

- All Commerce Degrees require at least Accounting I
- CA(SA) is regarded as one of the best qualifications to open doors all over the world
- There are many job opportunities for Commerce Graduates:
    - Financial Manager
    - Chartered Accountant
    - Bookkeeper
    - Business Owner
    - Banker
    - Insurance Agent
    - Actuary
    - Stock Broker
    - Business Administrator
    - Procurement Officer
    - Project Manager; etc.

Curriculum Summary:

Financial (50% to 60%)	Managerial (20% to 25%)	Resources (20% to 25%)
Accounting Concepts	Manufacturing and Cost Accounting	Indigenous Bookkeeping Systems
GAAP Principles	Budgeting	Tangible Assets
Bookkeeping		Inventory
Accounting Equation		Ethics
General Ledgers and Journals		Internal Control
Final Accounts and Financial Statements		
Salaries & Wages		
Value-Added Tax		
Reconciliations		

Skills learners will develop in taking this subject:

- Identify and solve problems and make decisions using critical and creative thinking
- Work effectively as individuals and with others as members of a group
- 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

AGRICULTURAL SCIENCE

Agricultural Science is a living subject, in which we explore the huge field that is agriculture. We focus more on the science behind the agriculture but we try, wherever possible, to make the learning as practical and interactive as possible.

Different Subject Areas

- Animal Science
- Plant Science
- Agricultural Economics
- Soil Science
- Environmental Science
- Ecology
- Pasture Science
- Business Studies
- Entrepreneurship
- Genetics
- Organic Chemistry

Agricultural Science is a recognised science subject with approximately 80 000 learners in KZN taking the subject through to matric level. It is recognised by most tertiary institutions as a science subject, although in order to study towards a degree in Agriculture it is beneficial but not compulsory.
Agricultural Science will give you a science subject, but still expose you to some of the business aspects of farming. This should assist in keeping your options open when you leave school. Just because you studied Agricultural Science does not limit you to a career in Agriculture however, but you will have a greater appreciation for those dedicated individuals who tirelessly work to produce the food that we all need to survive.

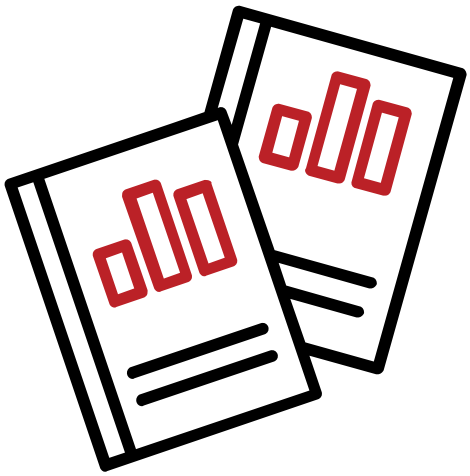
BUSINESS STUDIES

Business Studies is structured to develop the knowledge, skills, attitudes and values which are necessary to enable pupils to participate responsibly, productively and effectively in business activities in both the formal and informal sectors.

The subject covers the way in which private and public enterprises can best be managed to achieve profit and other objectives while providing goods and services for satisfying human needs. Business Studies centres around the eight management functions in a business, namely general management, finance, human resources, public relations, marketing, purchasing, production and administration. Each year progresses more deeply into these central functions. **See the curriculum summary below.**

Skills required in this subject are good comprehension skills, analytical thinking and problem solving attitudes. Business Studies is a holistic subject, giving learners a full perspective of the world around them as well as the ability to analyse, interpret and interact with different aspects of it in a professional and dynamic way. It includes, but is not limited to, the following:

- **Life Skills**
  (Problem solving, group dynamics, situational analysis, creative thinking)
- **Preparation for the world of work**
  (Labour law, career pathing, managerial skills, marketing, HR)
- **Financial Literacy**
  (Budgeting, analysing financial statements, interest rates, exchange rates, investments)
- **Proper Research Skills**
  (Primary and secondary research, non-plagiarism training)
- **Practical Application**
  (Interpretation of case studies, entrepreneurial skills, running a business through the mobile kitchen)



Career opportunities:

- Irrespective of chosen careers, everyone works within a business environment and a better understanding of business dynamics will help them to manage both their individual careers and subordinates.

- By choice or default, many of our learners will end up in entrepreneurial businesses and the skills learnt in Business Studies will provide a solid basis, even if they have pursued other tertiary studies.

- Finally, each individual needs management skills to plan and run their own personal lives and family units.

Curriculum Summary:

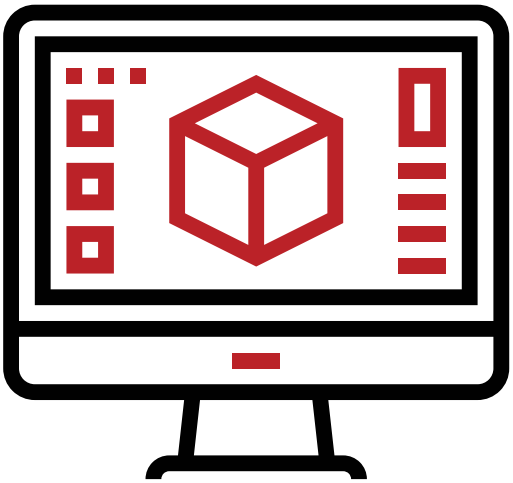
GRADE 10	GRADE 11	GRADE 12
Micro Environment Market Environment Macro Environment Interrelationship between environments Business sectors Contemporary socio-economic issues Social responsibility Entrepreneurship qualities Forms of ownership Creative thinking & problem solving Business opportunity Business location Contracts Presentation of Business Information Business Plan Self-management Relationship and team performance	Influences on and control factors influencing business environments Challenges in business environments Adapting to challenges in business environments Impact and challenges of contemporary socio-economic issues on business operations Business sectors Benefits of a company versus other forms of ownership Avenues of acquiring a business Creative thinking and problem solving Stress, crisis and change management Transform a business plan into an action plan Starting a business venture based on an action plan Professionalism and ethics Presentation of business information Assessment of entrepreneurial qualities in business Citizenship roles and responsibilities Marketing activities, marketing in the formal and informal sectors Use of technology for marketing imports and exports Foreign marketing The alignment of foreign marketing and the production function Production function Team Stages, dynamics theories and conflict management	Impact of recent legislation on business Human Resources function Professionalism and ethics Creative thinking Devise strategies to enable a business to respond to the challenges of the macro business environment Corporate social responsibility Human Rights, inclusivity and environmental issues Team performance assessment Conflict management Business sectors and their environments Management and leadership Quality of performance within business functions Investment: Securities Investment: Insurance Forms of ownership and their impact on the business operation Presentation of information and data response

COMPUTER APPLICATIONS TECHNOLOGY

Computer Applications Technology is the study of practical techniques for the efficient use of computers and computer software applications to accomplish common workplace tasks. You will learn how to apply your knowledge and the skill you gain to solve everyday problems. The solutions involve the use of either computers and software applications, or computers and telecommunication systems, or both. In other words, the solutions involve the use of ICT systems. ICT systems are the combination of telecommunication networks, computer hardware and computer software. Together, they provide the means of gathering and processing data, managing information and communicating and exchanging knowledge.

Skills required

- Sound communication skills
- Language proficiency
- Fine motor skills
- Logical and practical thinking skills
- Creativity
- Problem-solving skills
- Visual literacy
- A willingness to learn and apply skills in different situations
- A willingness to engage in lifelong learning
- Higher order thinking skills



Software used in CAT:

- Word processing
- Spreadsheets
- Databases
- Presentations
- Web Design (HTML)

Assessments:

GRADE 10	GRADE 11	GRADE 12
Term 1: Two tests (one theory and one practical)	**Term 1:** Two tests (one theory and one practical)	**Term 1:** Two tests (one theory and one practical)
Term 2: One test (Theory or Practical) Two examinations (one theory and one practical)	**Term 2:** One test (Theory or Practical) Two examinations (one theory and one practical)	**Term 2:** One test (Theory or Practical) Two examinations (one theory and one practical)
Term 3: Two tests (one theory and one practical)	**Term 3:** Two tests (one theory and one practical)	**Term 3:** One test (Theory or practical, two examinations. Trials – one theory and one practical)
Term 4: Two examinations (One practical and one theory)	**Term 4:** Two examinations (One practical and one theory)	**Term 4:** Two examinations (One practical and one theory)

Practical Assessment Task (25% of the total mark for CAT)

The Practical Assessment Task (PAT) is a project that assesses the learner's procedural skills and individual interaction with data and information as well as the way he processes, manipulates and presents the information. The information will finally be presented in a number of documents. These must be presented in the application programs studied.

The final mark for CAT is made up of

- 25% from the assessments
- 25% from the PAT
- 25% November Paper 1
- 25% November Paper 2

DRAMATIC ARTS

Dramatic Arts, a matric subject, is a powerful tool for developing skills of co-operation and collaboration. The subject prepares learners for entry into further studies for any possible career including, in the main, the drama (or related arts) field. Furthermore, Dramatic Arts equips learners with crucial life skills such as self-confidence; self-esteem; creativity; communication skills; empathy; self-discipline; critical, lateral and creative thinking; leadership and collaborative teamwork - which is a tacit requirement and will benefit the individual in any field or future interest.

How Can Dramatic Arts Help My Career?

This course does not simply train people for careers in the Performing Arts

- It helps you develop confidence and the ability to think laterally and deal with people effectively
- Most jobs involve working and dealing with other people and many employers will consider it an advantage that you have studied Drama

Career opportunities

- Education
- Business
- Law
- Psychology: Drama Therapy
- Engineering
- Commerce
- Journalism
- Philosophy
- Sociology
- Political Science
- Events and Project Management
- Public Relations
- Advertising
- Marketing
- Tourism

Skills learners will develop in taking this subject:

- Communication skills, not necessarily to train actors
- Self-confidence
- Sensitivity to others and social skills that develop from group work
- Independent, critical thought and creativity
- An understanding of, and respect for, different cultures and their dramatic expression

What does Dramatic Arts include?

- A theory component (50%)
- A performance component (50%)
- It requires a strong work ethic and commitment to group members

GRADE 10	GRADE 11	GRADE 12
Creative Expressions Evening **Internal Assessment** • **Choral Verse** • **Monologues** • **Scene** • **Movement Piece** **OR** • **Scripted Commedia Dell 'Arte Scenes**	**Dramatic Arts Festival** **Internal Assessment** • **Research on a topical issue** • **Creating the scene using Workshop techniques** • **Presenting**	**Theme Programmes** **Internal and External Assessment** • **Choral Verse** • **Monologues** • **Scene** • **Movement Piece** • **Creative Links**

Course outline

Theory Component (50%) – Grades 10 - 12

- Theatre History: A look at trends in the different eras
- Plays and Playwrights: Studied in detail with an emphasis on the performance of the text
- Principles of Speech: A basic understanding of how to produce a strong, clear and expressive voice

This is assessed in a 3-hour theory exam in Grades 10-12. The Matric theory exam is 150 marks and includes a compulsory essay writing question, contextual questions and application of personal resources to source based questions.

Performance Work (50%) – Grades 10-12

- Focuses on developing skills in characterisation, mime, physical theatre, and creative interpretation of poetry, plays and other forms of literature
- Expressed through dramatic mediums of monologues, choral verses, poetry, dramatised prose, scenes and movement pieces

***The final Matric performance exam is a theme programme - 150 marks, which the boys prepare in a group throughout the year and perform twice - for parents (internal exam) and later for the external examiners.**

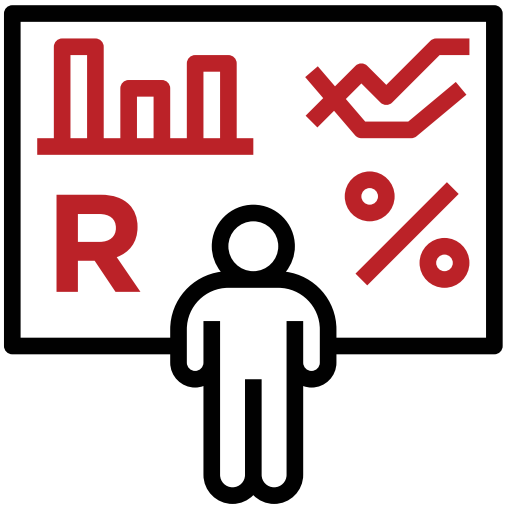
ECONOMICS

Economics is about the world around us. It is current; it is always changing; it is always interesting. It is about the modern world; it is about how we behave, how businesses behave and how the government behaves.

Economics teaches one how to make well-informed decisions. The core aspect of the subject is decision making: like, what should the government do to cut the budget deficit or what should a business do to raise profit margins. It teaches us how to go about making choices, because our resources are scarce and we have an abundance of needs. Through studying Economics you develop a financial awareness that is extremely beneficial, no matter what your career aspirations may be. It teaches you important problem solving skills that are highly valued in the workplace. Indeed, Economics is a great foundation for many careers. It supports careers in Finance, management, entrepreneurship etc. Economics will help immensely if you have a keen interest in business. The subject looks impressive on your CV as it displays high levels of both analytical and communication skills that many of the large company's demand. The curriculum topics allow for plenty of lateral thinking, involves logical reasoning, discussion and debating of issues that affect our daily lives.

Economics Tour:

Our top 20 performing Economics boys have an opportunity in Grade 11 to go on an Economics tour. They gain valuable exposure to the world of business and receive sound advice from prominent business leaders about career opportunities.
Most of the businessmen they visit are College Old Boys, who each added a personal touch by inspiring the boys with their life stories.



Curriculum Summary:

MACROECONOMICS	MICROECONOMICS
Economics: basic concepts **Basic economic problem** **Circular flow** **Quantitative elements** **Economic systems** **Business cycles**	**Dynamics of markets** **Market structures** **Cost and revenue curves** **Public sector intervention and composition of the RSA economy**
ECONOMIC GROWTH AND DEVELOPMENT	**CONTEMPORARY ECONOMIC ISSUES**
Money and banking **Population and labour force** **Labour market** **Redress since**	**Unemployment** **Labour relations** **Globalisation** **Inflation** **Tourism** **Poverty** **Other economic issues and quantitative elements of economics**

Playing the JSE Game

Our Economics learners take part in the JSE Challenge Game that teaches the boys about investing on the Stock Exchange and the larger role that such investment plays in the country's economy.

The challenge has helped those participating to learn the fundamentals of investment strategy. The game has proved to be an invaluable tool to the boys in understanding the working of the stock market.

ENGINEERING GRAPHIC AND DESIGN

The brief overview of our syllabus

There are two main components:

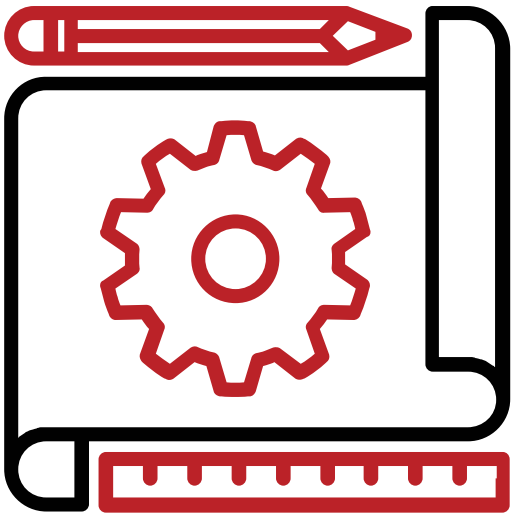
Civil:

- Pupils are required to know, draw and design from the preparing of the surface, to foundations of a building to roof height. This includes sectional views, all the elevations and site plans
- They are also required to know the fixtures and fittings as well as the electrics and all drainage and sewage
- They are required to do one and two point perspective drawings of abstract objects and dwellings as well as isometric drawings of a range of components
- They will also be required to do solid and co-ordinate geometry
- Transition pieces and ordinary surface developments are a requirement
- There is also an analytical section to the civil work where items need to be identified and explained

Mechanical:

In this section they will also have an analytical area to cover as well as:
Machine assemblies, helical designs – involving threads, springs and augers.
They will also design cams and mechanisms

The value of this subject would be that you could broaden your creative side and open a number of doors in the industry or engineering fields.



Skills Required:

- A steady hand
- Good printing and line work and accuracy
- A passion for design and a creative approach will certainly help

Career opportunities:

- Graphic design
- Architecture
- Design Draughting
- Engineering
- Artisans

Tertiary Education:

- Universities of Technology
- FET Colleges
- Various other Institutions

GEOGRAPHY

Value of Geography

Learners become aware of their environment and it is a balanced subject.

Geographers can learn how to:

- Make concise reports
- Deal with different kinds of data
- Analyse and make informed decisions
- Think creatively and independently
- Communicate
- Be socially and economically aware
- Be well-rounded, flexible thinkers
- Be good team players and problem solvers

Skills required

The subject is suitable for a wide range of learners

65% - 71% of the learners at Maritzburg College do Geography

Geography appears on All THREE subject lines

Career opportunities:

- Urban and City Planning
- Environmental Impact Studies
- Conservation, Cartographers
- Educators
- Meteorologists
- Climatologist
- Logistics
- Aerial Photography
- Distribution
- Surveyor
- Environmental Consultant
- Environmental Engineer
- Community Developer
- Location Expert and numerous others

Curriculum Summary:

GRADE 10	GRADE 11	GRADE 12
Climatology	**Climatology**	**Climatology**
Geomorphology	**Geomorphology**	**Geomorphology**
Population Geography	**Development**	**Settlement**
Water resources	**Resources and Sustainability**	**Economic Geography**
Mapwork (including GIS)	**Mapwork (including GIS)**	**Mapwork (including GIS)**

HISTORY

Value of History:

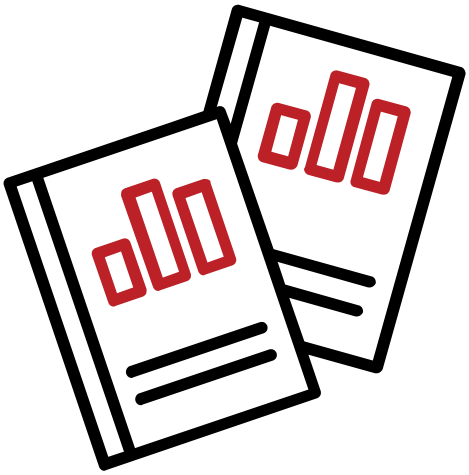
- Moral understanding
- Self-identity
- Essential for good citizenship
- The ability to assess evidence
- The ability to assess conflicting interpretations
- Experience in assessing past examples of change.

Skills required:

- Understand people and societies
- Understand change and how the society we live in came to be
- Being able to relate events in the past to our own lives

Career opportunities:

- Teaching
- Vital for law, any BA degree and business degrees.



Curriculum Summary:

GRADE 10	GRADE 11	GRADE 12
The world around 1600. The French Revolution Transformations in Southern Africa after 1750 Colonial Expansion The South African war and Union	Communism in Russia 1900-1940. Capitalism in the USA 1900 to 1940 Ideas of Race in the late 19th and 20th century Nationalisms- South Africa, the Middle East and Africa Apartheid South Africa 1940s to 1960s	Cold war: Extension the Cuban Missile crisis Case Study: China. Independent Africa. The end of the cold war and a new world order 1989 to the present.

INFORMATION TECHNOLOGY

Information Technology is the study of the various interrelated physical and non-physical technologies used for the capturing of data, the processing of data into useful information, and the management, presentation and dissemination of data.

Information Technology studies activities that deal with solutions to problems through logical and computational thinking. It includes the physical and non-physical components for the electronic transmission, access, and manipulation of data and information.

Skills learners will develop in taking this subject:

- Use appropriate techniques and procedures to plan solutions and devise algorithms to solve problems using suitable techniques and tools
- Understand and use appropriate communication technologies for information dissemination
- Appreciate and comprehend the various systems technologies used in developing a computer-based system
- Understand that all ICT systems are built upon software engineering principles; understand and use internet technologies for various tasks
- Comprehend and apply the concepts of data and information management to understand how a knowledge-driven society functions
- Understand the social implications of ICTs and how to use ICT technologies responsibly

Career opportunities:

- Software Applications Developer
- Database Administrators
- Computer Network Architects
- Information Security Analyst
- Data Scientist
- Computer Systems Analyst
- Cloud Solutions Architect

Curriculum Summary:

GRADE 10	GRADE 11	GRADE 12
Basic programming principles and constructs are introduced in Grade 10 through an easy-to-learn, fun tool. An introductory graphical programming teaching tool is used to introduce learners to important computational skills and concepts, algorithm development, problem solving and programming.	**In Grade 11, learners build on the principles and concepts learned in Grade 10 using a high-level programming language that uses an integrated development environment with a GUI builder. Learners are introduced to controls and code and basic object oriented programming (OOP). Event handling principles are reinforced using the form class, attributes, methods and controls. Skills to manipulate a database through code constructs are also introduced in Grade 11.**	**In Grade 12, the principles and constructs are further emphasised through more advanced concepts and problems and learners should be ready to engage with basic structured query language (SQL) code and manipulating a relational database. The development of computational thinking practices of algorithm development, problem solving and programming underpin solution development and should be emphasised from Grade 10 to Grade 12. Usability, HCI (human computer interaction) and software engineering principles should be reinforced as part of software development as well as when dealing with websites as part of the Internet Technologies topic.**

Recommendations

We recommend that a learner should achieve a minimum of 70% in Mathematics and English in order to do IT as a subject. Lessons are offered once a week at school. Online lessons and videos have to be viewed in addition to the lessons at school.
Learners must have access to the following out of school: Computer; Delphi Software; Microsoft Office and Theory textbook.

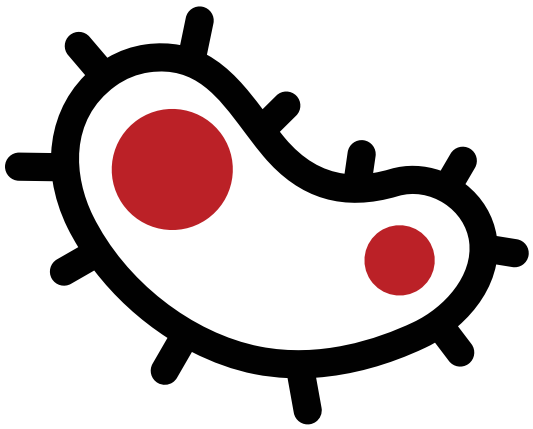
LIFE SCIENCES

Life Sciences comprises the branch of science that involves the scientific study of life and organisms, such as microorganisms, plants and animals including human beings. The subject ranges from studying the molecular structure of living things to their interaction with each other on an ecological scale.

An enquiring mind is essential for this subject, as well as the knowledge that to be accepted as a science, it is necessary to use certain methods for broadening existing knowledge, or discovering new things. The methods include formulating hypotheses and carrying out investigations and experiments as objectively as possible to test these hypotheses.

As with all content based subjects, a solid and consistent work ethic is needed to succeed in this subject area and good learning habits are a necessity from the beginning of Grade 10. Biological skills are honed with the dissection of the eye, kidney and lungs to mention a few as well as field work requiring time spent out and about.

Life Sciences is as relevant as the world that we live in every day. The content is topical and deals with current issues encouraging students to discuss ethical and moral issues that arise from a close association with the natural world.



Career opportunities:

- Medicine and allied fields
- Sports Science
- Physiotherapy
- Veterinary Science
- Biochemistry
- Microbiology
- Agriculture
- Conservation
- Genetics
- Environmental Impact Assessment

Curriculum Summary:

GRADE 10	GRADE 11	GRADE 12
The chemistry of life Organic and inorganic compounds Cell structure Microscopy Plant and animal tissues Plant organs and structures The human skeleton The heart Ecology History of life on earth	Micro-organisms (viruses, bacteria, fungi) Plant biodiversity Animal biodiversity Photosynthesis Human nutrition Respiration Human gaseous exchange Excretion and the kidney Population ecology Human impact on the environment	DNA and protein synthesis Meiosis Human reproduction Genetics Human nervous system (the eye and ear) Human endocrine system (hormones) Plant hormones Evolution

School Based Assessment comprises the following:

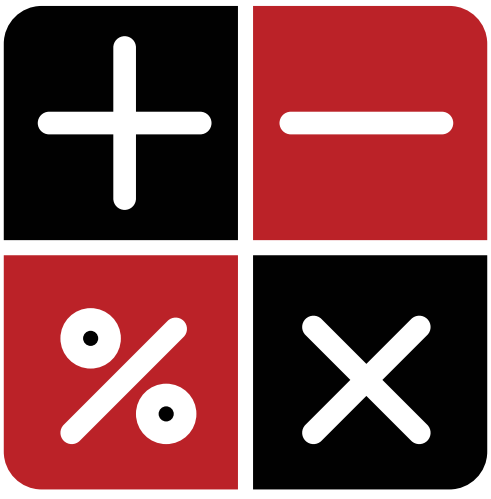
GRADE 10	GRADE 11	GRADE 12
1 x Practical investigation per term 1 x Common test per term 2.5 hour June exam 2 x 2.5 hour exam papers in November Practical examination at the end of the year Assignment/project		Practical investigation for terms 1, 2 and 3 Common test for terms 1, 2 and 3 2.5 hour June exam 2 x 2.5 hour Trials exam 2 x 2.5 hour Finals exam Assignment

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 - all of which contribute to decision-making. Mathematical problem solving enables us to understand the physical, social and economic world around us. Most of all, however, it teaches us to think creatively.

Skills Required

- Persistence
- Communication
- Resilience
- Critical thinking
- Logic
- Curiosity
- Creativity
- Time management
- Organisation



Career opportunities:

Almost every job involves math to some extent, though the type of math that is used in jobs can vary from basic addition and subtraction to complex algebra and inferential statistics. Consider these findings from a study of American workers:

- 94% of all workers use some sort of math in their jobs
- 68% use fractions, decimals and percentages
- More than a third of skilled blue-collar workers such as carpenters and mechanics use basic algebra on the job.
- 29% use geometry and trigonometry
- 5% of all workers use calculus; skilled trades workers, managers, and technical professionals use it the most

Math skills are clearly important in many careers, most notably the science, technology, and engineering professions. But such skills also feature prominently in some careers that may not seem like a natural end point for someone with a maths degree. 'Video game developer' and 'computer animator' are just two examples of less-obvious jobs that actually use calculus.

A major in mathematics is a springboard to a wide range of rewarding careers. Whether you focus on theoretical mathematics or applied math, the analytical and quantitive skills you develop in a math programme are valuable assets that many employees need. Take a look at some of the types of organisations that hire math majors:

- Government agencies and academic research institutes
- Engineering firms
- Biomedical and health services companies
- Insurance agencies
- Real estate firms
- Medical device manufacturers
- Airlines and other transportation service providers
- Financial institutions

Curriculum Summary:

	GRADE 10	GRADE 11	GRADE 12
PAPER 1			
Algebra and Equations (and0 inequalities)	**30 +/- 3**	**45 +/- 3**	**25 +/- 3**
Patterns and Sequences	**15 +/- 3**	**25 +/- 3**	**25 +/- 3**
Finance and Growth	**10 +/- 3**		
Finance, growth and decay		**15 +/-3**	**15 +/-3**
Functions and Graphs	**30 +/- 3**	**45 +/- 3**	**35 +/- 3**
Differential Calculus			**35 +/- 3**
Propability	**15 +/- 3**	**20 +/- 3**	**15 +/- 3**
TOTAL	**100**	**150**	**150**
PAPER 2			
Statistics	**15 +/- 3**	**20 +/- 3**	**20 +/- 3**
Analytical Geometry	**15 +/- 3**	**30 +/- 3**	**40 +/- 3**
Trigonometry	**40 +/- 3**	**50 +/-3**	**40 +/-3**
Euclidean Geometry & Measurements	**30 +/- 3**	**50 +/- 3**	**50 +/- 3**
TOTAL	**100**	**150**	**150**

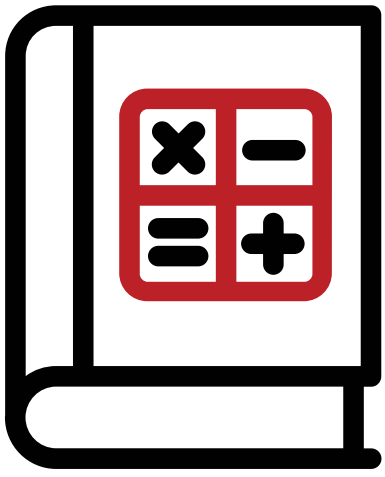
MATHS LITERACY

This subject provides learners with the opportunity to become financially responsible and mathematically literate adults. Mathematical Literacy allows learners to make sense of the "real" world – a world characterised by numerically based arguments, data representations and misrepresentations. Learners are exposed to mathematical content within real life contextual situations.

The subject Mathematical Literacy should enable the learner to become a self-managing person and a participating citizen within a developing democracy. Boys who are mathematically literate should have the capacity and confidence to interpret any real life context that they encounter, and be able to identify and perform the techniques, calculations and/or other considerations needed to make sense of the context. In this sense Mathematical Literacy develops a general set of skills needed to deal with a large range of scenarios.Numerical and mathematical skills are used to describe and tackle a wide range of problems. These key skills are about understanding when particular techniques should be used, how to carry them out accurately and which techniques should be applied inparticular situations. Developing your numerical, graphical and algebraic skills means being able to plan how you are going to use your skills over a period of time, monitoring your progress and then reviewing your approach. In developing and assessing this key skill, you will learn to use and adapt your skills confidently and effectively in different situations and contexts.

The value of Mathematical Literacy

There is a common misconception that one must have done Mathematics Core for matric as a basic entry requirement for acceptance into our traditional academic SA Universities. This is certainly not the case. One can attend University having passed Mathematical Literacy however, your field of study will be restricted largely to the field of Humanities which includes the Performing and Fine Arts.



Career opportunities:

Within the broad Humanities Field there are a number of careers to choose from. These include, for example, Advertising, Art, Drama, Graphic/Interior Design, Human Resources, Journalism, Law, Marketing and Public Relations, Photography, Politics, Psychology, Teaching, Theology, Tourism. A number of careers in Sport Coaching, Personal Training, Recreation and Fitness also accommodate Mathematical Literacy. Please be advised, however, that the TRADES do require matric Core Mathematics. Should you have done Mathematical Literacy … you would be required to do a "bridging course" of matric Core Mathematics before you start your first year Trade.

Skills learners will develop in taking this subject:

- Interpreting and communicating answers and calculations
- Numbers and calculations with numbers
- Patterns, relationships and representations
- How to buy a house, including calculating transfer fees, legal fees and bond repayment amounts
- The benefits and downfalls of Hire-Purchase
- Reading and interpreting statistics in newspaper articles
- How to calculate income tax

MUSIC

All Grade 8 students at College are introduced to music through a Music Appreciation class. Those boys who wish to take the subject to Matric will benefit from a comprehensive syllabus that involves music history, theory and practice.

Grade 8 and 9

By Grade 9, the students who are playing an instrument are encouraged to choose Music as one of their elective subjects, choosing between Music, Art and Drama. A student has to be taking lessons on their particular instrument to be able to do music as a subject in Grade 9. Grade 9 Music is aimed at the development of Grade 10, 11 and 12 Music subject students and therefore will be theory and history based. All aural and practical requirements will be covered in practical music lessons. Practical music lessons for students in Grade 8 and 9 will be on a cyclic basis. Their practical lesson times will alter throughout the year every week and will be given to them at the beginning of each term. Any students not wanting to do Music as a subject in Grade 10, 11 and 12, but who want to carry on with their instrument, can do so on the same basis as the Grade 8 and 9's. They will have a cycling timetable. This is all dependent on the availability of the teacher for those periods.

Music History:

- Baroque to 20th Century style periods in Western Art Music
- Sound production and orchestral instruments and the human voice
- Popular Music
- Musical Theatre
- Introduction to indigenous African music and other South African genres
- The Music industry

Theory

- Rudiments of music
- Harmony, melody writing and compositional techniques
- Aural, composition and improvisation
- Singing, clapping of rhythms
- Melody-writing (composition)
- The listening and analysing of musical genres
- Analyses of musical scores
- Arranging of compositions for orchestral instruments
- Identifying instruments
- Improvisation

Practical:

Minimum practical requirement for music as a subject in Grade 12 is Grade Five (Trinity/Unisa/Royal Schools/Rock School)

- Pieces and technical work will be assessed every term
- An ensemble piece is also included in the repertoire
- A minimum of an hour's daily practice is expected

Pupils are encouraged to play an External Practical Examination each year.

Assessment:

Minimum practical requirement for music as a subject in Grade 12 is Grade Five (Trinity/Unisa/Royal Schools/Rock School)

- Practical/Aural: 150
- Theory/History: 150
- PAT tasks and year mark: 100

Total: 400

Career Opportunities:

- Journalism (with interest in the arts especially)
- Marketing
- Film and other creative industries along those lines.

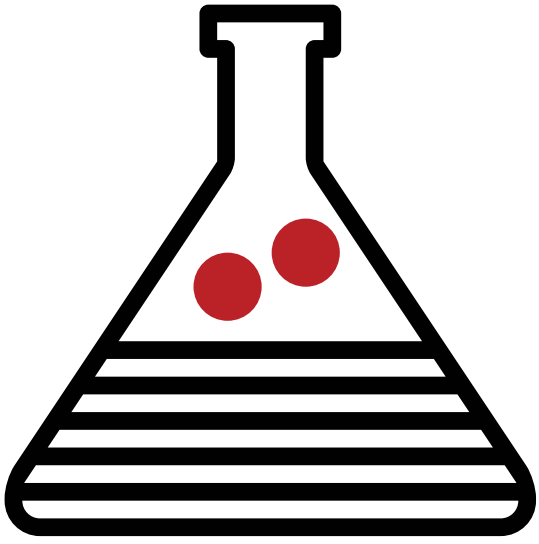
PHYSICAL SCIENCES

The subject is very demanding and requires a good foundation in Mathematics. It covers two disciplines:

Physics: which looks at HOW and WHY
Chemistry: which looks at WHAT makes it happen.

Both disciplines are taught for the three years from Grades 10 to 12 (4th form to 6th form) and two exams or tests in each are written every term. Practicals are a requirement and do count to the term marks. Each year's work builds on that of the previous year/s. This means it is more or less a 3-year curriculum.

Aspects such as mining, the Atmosphere, Industrial Chemistry and Agriculture are touched on so that the applications of the two disciplines can be seen. If you have the ability to really apply yourself to daily revision of the work done that day and continual practice, then you definitely can do the subject. It is also vitally important that you have some interest in the subject and that it is needed for a future career you may be interested in.



Curriculum Summary:

GRADE 10	GRADE 11	GRADE 12
Matter and materials (Practical on heating and cooling) Waves: sound and light Chemical change (Practical on electrical conductivity) Electricity and magnetism (Practical on electric circuits) Mechanics Hydrosphere	Matter and materials Waves: light Chemical change Electricity and magnetism Mechanics Lithosphere	Waves Chemical change (Practical: Making an ester. Acid and base titration) Electricity and magnetism (practical: internal resistance) Mechanics (Practical: determining the Law of conservation of momentum) Fertilizers
CONCEPTS		
Classification of matter States of matter and kinetic theory model Periodic table and the atom Chemical bonding Transverse and longitudinal waves Soundwaves Electromagnetic radiation Balancing Physical vs chemical change Reaction types Stoichiometry Magnetism Current electricity Static electricity Vectors in 1 dimension Motion Mechanical energy	Bonding and Intermolecular forces Water chemistry Stoichiometry and quantitative aspects. Gas laws Refraction Snell's law Diffraction Enthalpy, acids and bases, electrochemistry. Static electricity Vectors in two dimensions Newton's laws	Doppler effect Optical phenomenon Organic chemistry Acids and bases Rates of reactions Electrochemistry Electric circuits Electrodynamics Projectile motion Momentum and impulse Work, energy, power.

VISUAL ARTS

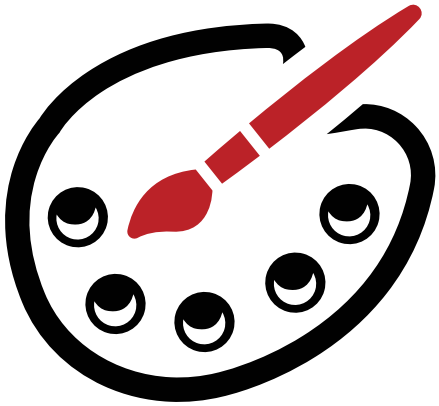
The Visual Arts syllabus is divided into a theoretical component that counts for 30% of marks, and a practical component comprising 70%.

Theory:

The theoretical component takes the form of visual cultural studies – studying artworks to explain the historical, political, social and economic background of civilisations/ movements and individual artists. In Grade 10, we cover world art from the earliest works of the Stone Age up to the art of the Baroque. In Grade 11, the focus is largely on Western art from the 19th century to the modern day, with cross references being made to South African art along the way. The Grade 12 syllabus focusses entirely on South African art, including many exciting contemporary artists. These studies will give learners not only a strong sense of history and art, but also enable them to develop the skills to understand, analyse and write about art. Since art often expresses the concerns of an artist in society, the study of art creates opportunity for the learner to discuss and express ideas about many contemporary issues such as gender, race, urbanisation, traditions, religion and politics. This makes for well-rounded, socially aware adults.

Practical:

The practical component consists of one big Practical Assessment Task or PAT on a given theme for each term. For this theme, learners will develop ideas in a Visual Diary, and then realise these ideas in the form of an artwork. They will have the opportunity to learn the skills of lino printing, etching, welding and constructing three-dimentional artworks, acrylic and oil painting. As learners progress through the senior grades, they will be given increasing freedom to explore the medium of their choice. Topics chosen encourage the intellect, creativity and self-expression. In this way, art, more than any other subject, fosters the development of the individual. In addition, learners will have regular drawing exams in which they focus on honing their tonal drawing skills, thus providing them with a solid foundation in observation.



Career opportunities:

- Architecture
- Industrial Design
- Interior Design
- Graphic Design
- Web Design
- Animation
- Photography
- Product Design
- Media
- Fashion

They are well-equipped to pursue new technologies and visual communication and work in industries such as television, film and advertising. Arts and cultural managers in government, NGO's or the heritage sector require a background in the arts.

Skills required:

Boys choosing art need not come with highly developed drawing or painting skills, since these can be taught. They must, however, have a love and enthusiasm for art, since they will need to put in periods of intense work. They also need to be able to be self-driven. The art room environment is, by necessity, less structured than that of other subjects, since each learner may be working in an entirely different way. Thus boys must be able to work to a long-term deadline, and structure their time accordingly. This is a valuable life-skill to practice.

The value of taking art lies in its fundamental creativity. In a society changing as fast as ours, we need to be able to create, innovate and problem solve in entirely new ways all the time. Creative individuals are fast becoming the most sought-after people in every sphere, because of their adaptability and ability to envision new solutions.