



# Stanford Lake College

## **ACADEMIC INFORMATION: Subject choice for Grade 10: 2011**

Dear Parents

During the course of term 3, the Grade 9's have undergone the Human Progress Management tests as well as completing the IEB International Benchmarking Tests in Mathematics and English. The results of these will be conveyed to you as soon as we have received them.

The teachers who will be teaching the various subjects in the FET phase will meet with the Grade 9's early next term to explain what each subject entails and to try and indicate what academic demands each subject makes upon pupils. These talks by the teachers are attached for your information.

Here is some general information relating to subject choices, pass requirements for the National Senior Certificate and entrance requirements for tertiary institutions:

- There are 4 compulsory subjects: English Home Language  
Afrikaans 1<sup>st</sup> Additional Language  
Mathematics **OR** Mathematical Literacy  
Life Orientation

Pupils then choose 3 further subjects from predetermined subject packages. Certainly, it will not be possible to cater for every pupil's choice.

- The most important choice to make is between Mathematics and Mathematical Literacy. Please remember that Mathematical Literacy is a complete subject in its own right and places particular demands upon pupils. If a pupil is unsure of what career they intend following, then they should continue with Mathematics, provided they have the ability to do so, so as not to limit potential career options later. However, should a pupil be achieving less than 50% for Mathematics in Grade 9, they should seriously consider taking Mathematical Literacy in Grade 10. It is important to remember that Mathematical Literacy will allow pupils entrance into certain courses at universities.
- If a pupil wishes to take Physical Science or Accounting, they should also take Mathematics.
- Pupils wishing to take Visual Art will undergo a 'test' to determine their suitability and aptitude for the subject. Please remember that Visual Art is an academic subject and has a large Art Theory component. It is not simply painting or drawing!



- Minimum requirements for a National Senior Certificate pass (this does not gain a pupil entry into an institution of higher learning):
  - 40% in English Home Language
  - 40% in 2 other subjects
  - 30% in 3 other subjects
  - A pupil may 'fail' 1 subject as long as there is a portfolio of assessment for that subject.
  
- Minimum requirements for entry into Degree courses at institutions of higher learning:
  - 50% or more in 4 subjects from the designated subject list
  - The designated subject list is a list of subjects that the institutions of higher learning have deemed suitable for university.

Life Orientation and Computer Applications Technology (CAT) are not included on this designated list. However, universities require pupils to have passed Life Orientation with at least 50% (60% for some courses) to gain entrance. Also, even though CAT is not on the designated subject list, universities do consider the mark achieved in CAT when the Admission Points Score (the old M-Score) is worked out. This Admission Points Score is critical for entrance into the study course of choice at universities.

The important point here is that pupils wishing to take CAT must understand that they will have to meet the university entrance requirements of 50% or more in 4 subjects from a total of 5 subjects instead of 6.

Eg. A pupil taking English, Afrikaans, Maths, Science, Geography and Art will be able to gain their 4 subjects from all 6 of the subjects they take as all their subjects appear on the designated subject list.

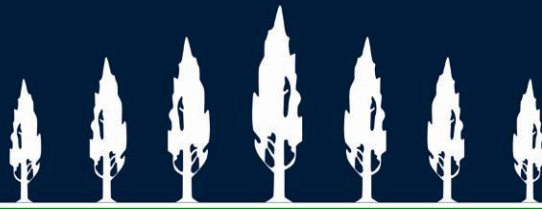
However, a pupil taking English, Afrikaans, Maths, Science, Geography and CAT will have to gain their 4 subjects from only 5 because CAT is not on the designated subject list.

This should not put pupils off taking CAT as a subject as they can definitely still gain entrance into university and it is a valuable subject in its own right.

If some of the above seems somewhat confusing, we will be available after assembly on Friday 8 October to answer any queries you may have. If, however, you have any queries you would like answered before then, please contact me, preferably by email at [djack@stanfordlakecollege.co.za](mailto:djack@stanfordlakecollege.co.za).

On the next page is a Subject Package Form which needs to be completed and returned to myself at the start of Term 4. If pupils, later, wish to make changes to their initial choices, they may do so.

Yours sincerely



Denis Jack  
Deputy Head: Academics

Johann Ueckermann  
Head

**STANFORD LAKE COLLEGE**

**SUBJECT PACKAGES: GRADE 10**

**NAME:**

**Compulsory Subjects:**

English Home Language

Afrikaans First Additional Language

(except for immigrant pupils who choose another subject from the groups in which Afrikaans appears))

**(Afrikaans appears in two groups below – choose from one of the groups)**

Mathematics **OR** Mathematical Literacy

Life Orientation

**Choice subjects:**

You must choose **ONE** subject from **EACH** of the following groups:

Afrikaans First Additional Language

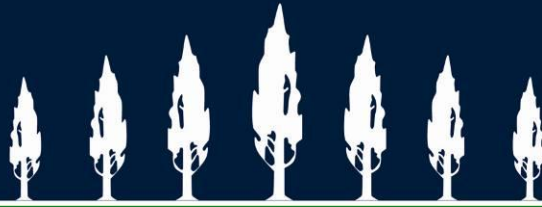
Geography

Life Science

Afrikaans First Additional Language

Accounting

History



Physical Science  
Computer Applications Technology (CAT)  
Life Science

Visual Arts  
Physical Science  
Economics  
Geography

(Please note that certain subjects appear in more than one group)

### **MATHEMATICS**

Maths is now a far more demanding subject than it used to be.

Firstly, because there is no longer the safety net of changing to Standard Grade if a pupil is not coping with the Higher Grade. Therefore, any pupil who is not coping with Maths in Grade 9 (i.e. achieving below 50%) should not continue with Maths in Grade 10 and must be encouraged to do Maths Literacy.

Secondly because there is a lot more content i.e. Transformation Geometry, Probability, Data Handling (Statistics), Financial Maths are new sections of work, but very little of the original content has been removed.

Each test and exam from the beginning of Grade 10 will be set in the following way:

- 50% Basic Skills / Routine Procedures / Knowledge (types of examples done in class)
- 30% Complex Procedures (more difficult questions based on work done in class)
- 20% Problem Solving (unseen questions that can't be studied for)

This means that it will be more difficult to get an A for Maths.

*An example of a problem solving question:*

*What is the units digit of  $2^{2007}$ ? As you will see when you try to use a calculator, you will not get the answer as the number is too big, so you need to approach it differently. You start with the smallest powers of 2:  $2^1$ ;  $2^2$ ;  $2^3$ ;  $2^4$ ; etc and find the pattern. Answer: the units digit is 8.*

*Now that you have seen this problem, it is no longer regarded as a Problem Solving question and would be a Complex Procedure!!*

There are three exam papers for 2008 to 2010:

Paper 1 (3 hours)  
Paper 2 (3 hours)  
Paper 3 (2 hours)

Paper 3 is optional for 2008 – 2010, but it appears that the content will be absorbed into Papers 1 and 2 in 2011.



*OR*

### **Mathematical Literacy**

In Mathematical Literacy we teach skills and not content. Most of the skills revolve around the day to day workings of mathematics.

Mathematical Literacy is divided into four Learning Outcomes( LO).

LO 1

#### **Numbers and Operations**

We do **conversion** which is changing of units (metres to kilometres, grams to tonnes, rands to pounds, etc)

**Working with money.** Types of accounts in a bank and their advantages and disadvantages, borrowing money from the bank ( personal loans or bonds), tax, personal budgets, running a business, electricity and water bills, phone accounts and mathematical operations.

LO 2

#### **Functional Relationship**

Graphs (interpretation and drawing of graphs)

LO 3

#### **Geometry**

Different types of shapes

Measurement

Calculating Area, Perimeter and Volume

Requirements and calculations and building a house

LO 4

#### **Data handling and probability**

At the moment and as was agreed at the conference meeting from the IEB office we are not having Trigonometry as a chapter until further notice.

### **HISTORY**

The History syllabus in the senior phase tracks the story of the world from the mid 15<sup>th</sup> Century up to current day wherein we analyse the concept and ideas behind globalisation and what it means to be a part of the globalised world. History requires and develops a variety of skills; some of which are source-analysis skills and essay writing skills. Despite the fact that History deals with content, the new approach to the subject is skills-based. Thus, History is



accessible to all. An interest in politics and political life and a good general knowledge are helpful skills to have for this subject. Research skills are strongly developed in this subject and pupils will be able to move into various tertiary institutions with a good idea of how research is conducted and how to access the relevant information. Some of the projects done this year by the historians included making historical board games, designing power points and designing web pages concerning an historical figure. By the end of their time at Stanford, our historians will have an in depth knowledge of how the world around them was created and the role that each historical event contributed to their lives today. Moreover, they will be functionally and historically literate. Ultimately, what other subject can you learn about people and analyze their actions. History is alive and fun and would love to have more students!

## **GEOGRAPHY**

As a subject, it is extremely relevant to all aspects of life and it is a subject that is practical as all that you are taught can be experienced in most everyday life.

The subject is divided up into various sections;

Physical – climatology, weather, cloud, storms, hurricane, tornadoes etc. Geomorphology- rocks structure, formation and landforms/ features which result earthquakes, volcanoes, tsunamis,

Settlement urban and rural - patterns, problems and solutions

Ecology – ecosystems, webs, pyramids, chains, soil profile etc.

Economic – economy of countries,

Population – people and places, birth, death infant mortality rates etc.

South Africa – application of the above to the SA situation.

Map work, GIS, Map Projections.

GIS is a new section added to the syllabi and very computer orientated.

Map work covered from grade 10-12

The pupil who likes the out doors and the why and how of the earth around them, should do this subject.

We try to do a fair amount of fieldwork and spend some time out of the classroom and we go on excursions, for example this year we went to the Blyde River, Pot holes etc.

There is a fair amount of work but it is so relevant making it “User Friendly.” The amount of general knowledge that you gain is immense and as a practical subject you will always use this information in the future.

Approximately half the grade does choose Geography as one of their subjects.

One of the sciences, together with life science and physical science.

Careers.

Climatologist, town planner, environmental careers, GIS, geologists and lots more



## **PHYSICAL SCIENCE**

Many people choose Science because it is such a useful subject to have, career-wise, and also because it is “fun” with lots of experiments and smelly explosions. In reality it is a very difficult subject with a great deal of theory and calculations and practicals can often be tedious. Pupils considering Math literacy rather than Maths should not consider taking Science as they will not cope with the calculations.

On a lighter note we do study a large variety of interesting topics, such as radioactivity, mechanics, light, sound and wave motion, electricity and the structure of matter. Chemistry involves learning about reactions such as acid-base titrations, Redox reactions or electrochemistry and reactions involving organic compounds.

We also study the Science involved in the atmosphere and lithosphere, the water cycle, global warming and energy resources, as well as various mining processes.

If you are interested in Science and think that you have what it takes to handle the work load then you are welcome to join me and I will make it a worthwhile experience for you!

## **LIFE SCIENCE (Biology)**

The following are the broad areas of study that will be covered in Life Science.

- Cells, Tissues, and Cell division.
- Biodiversity, Population Biology, Genetics, Origin and Extinction of Species.
- Human Biology :- How our bodies work.
- Environmental Studies :- Ecology, Mans impact on the Environment

Less emphasis is placed on remembering facts and more emphasis placed on understanding biological concepts and applying your knowledge to real life.

e.g. Pupils will be expected to read and interpret graphs and tables.

Practical demonstrations and experiments are a feature of Life Science.

Observing, drawing, collecting data, performing experiments and independent research are some of the skills you must be comfortable with.

Expect to be involved in compulsory research activities after hours for at least part of the year.

## **ECONOMICS**

### **1. OBJECTIVE**

- As the economy of a country is closely related to the country’s political, agricultural, social and international views, we look at all these aspects in Economics



- The aim is **not** to teach them how to run a business (this is done in Business Skills as a subject) although it is one of the topics we do cover in Economics ( to look at the different kinds / forms of businesses)
- One of the most important topics in Economics is the market forces of **demand and supply** which play an important role in all economies
- The understanding of these concepts is very important for the man on the street's every day life (consumers)
- It helps to understand why prices increase or decrease and the consequences for the individual but also for the country
- We have to look at the role of government in the economy of the country and therefore have to have very in depth discussions in class
- We look at the facts and analyse them, but we do not make judgements

## 2. SYLLABUS

- **Macro – economics** : factors of production and everything involved in the production process (economic cycle, business cycle – to measure economic climate of a country)
- **Micro – economics** : Markets (domestic and international) prices (demand & supply)
- International trade : Why, free-market / protectionism
- **Economic pursuits** : economic growth and development, trade policies
- **Contemporary economic issues** : unemployment, labour relations, inflation, poverty, globalisation, environmental deterioration, sustainable development, tourism, reconstruction of SA economy

## 3. LINKS WITH OTHER SUBJECTS

- The new FET syllabus requires a lot of calculations, **data analysis** and response
- This links extensively with the work done in Maths literacy (children who take Maths Lit find the calculations quite easy)
- There is also a link with Geography and History

## 4. WHO / WHY TO CHOOSE ECONOMICS

- People interested in what is happening in the country but also in the world and the cause and consequence effect of events all over the world will find this a very interesting subject as their **general knowledge** will most definitely improve
- Good writing skills are a requirement for this subject because we have to explain so many different views – there will be ample opportunity to develop these skills
- The child who is able to express his /her views in class discussions will have an advantage
- Presentations (**not** speeches!!) on economic issues : the children find this very rewarding

## ACCOUNTING

This subject encompasses accounting knowledge, skills and values focusing on the financial, managerial and auditing fields. The syllabus content has been expanded beyond the processing and interpretation of historical financial data and



information, into the realms of managerial accounting, forward-looking in nature, and into the efficient, effective, and ethical managing of resources.

It embraces the following features:

**\* Financial accounting**

Financial accounting includes the logical, systematic and accurate recording of financial transactions as well as the analysis, interpretation and communication of financial statements by understanding the fundamental concepts regarding basic accounting principles and practice.

**\* Managerial accounting**

Managerial accounting includes concepts such as costing and budgeting. It puts emphasis on the analysis, interpretation and communication of financial and managerial information for decision-making purposes.

**\* Tools in managing resources**

Tools in managing resources include basic internal controls and internal audit processes and code of ethics. These features put emphasis on the knowledge, understanding and adherence to ethics in pursuit of human dignity, acknowledging human rights, values and equity, in financial and managerial activities.

Pupils must have the enjoyment with working with figures, in doing repetitive work and logical thinking. They need the ability and enjoyment in problem-solving.

We look at their Maths results, purely to identify whether the pupils have an aptitude for the above. If pupils are struggling with Maths in grade 9, they will probably struggle in doing the extended work in Accounting. Though this is not pure Maths of nature, the problems do require the same logical, lateral thinking and problem solving ability.

**CAT (Computer Application Technology)**

Is a popular, viable subject that benefits everyone by teaching them worthwhile skills. Databases, word processing, spreadsheets, graphics, web page design and general computer theory are covered. The subject will give pupils a good computer grounding to a fairly advanced level in the use of many of the packages. Pupils who do Cat for matric do not have to sit for a computer competency test when enrolling at university.

**VISUAL ARTS**

Learning outcomes

LO1 Conceptualising:

Learner is able to explore develop and realize creative ideas in response to both externally-set and self generated projects, drawing on own experience and knowledge of visual culture past and present.

LO2 Making

Learner is able to explore and manipulate materials, techniques, processes and technologies in making of imaginative and innovative objects of personal expression.



### LO3 Management and Presentation

Learner has to effectively manage own working process and own personal and professional development within the visual arts field.

### LO4 Visual culture studies

Learner is able to demonstrate knowledge skills, attitudes and values acquired through the study of the diverse roles and functions of visual arts in contemporary life and in different times (art history) and cultures.

Visual Arts theory in grade 10 covers Prehistoric art up to and including Renaissance and Mannerism

Visual Arts theory also includes visual literacy. How to formally analyze and read paintings

Practical work includes planning in their visual diaries “ the creative process” and contextual research

Practical work involves drawing, painting, composition and design

Students interested in choosing Visual arts as a subject choice should have basic drawing skills in perceptual drawing (drawing from life). They would need to submit a drawing done under controlled supervision. (Grade 9 cycle test)

### Career choices:

Art, Interior design, Fashion & fashion accessories, Industrial design, Advertising,

Architecture, Fabric and textile design, Teaching, Furniture & Product design, Publishing & graphic design, Ceramics, Jewellery