

# SUBJECT INFO



# **CONTENTS**

## **1. Composition of subjects**

## **2. Compulsory subjects**

### **a) Languages**

### **b) Life Orientation**

### **c) Mathematics/Mathematical Literacy (with requirements)**

## **3. List of choice subjects**

## **4. Subject information**

## 1. COMPOSITION OF SUBJECTS

- All subject combinations at Hoërskool Lydenburg allow university entrance.
- Your subjects consist of FOUR compulsory subjects and THREE choice subjects.
- The compulsory subjects are: Home Language, First Additional Language, Mathematics/Mathematical Literacy and Life Orientation
- Recommendation: Although the Department of Education now recognises all subjects as university exemption subjects, learners who want to study towards a degree will benefit from choosing at least ONE of the “old” exemption subjects as part of their subject choice.

## 2. COMPULSORY SUBJECTS

### A) LANGUAGES

The languages of teaching and learning at Lydenburg High School are Afrikaans AND English. Learners take one language on Home Language level and the other language on First Additional Language level.

Afrikaans Home Language and English Home Language are offered. Learners may take only ONE of these languages on Home Language level. The pass requirement for Home Language is 40%. The other language is then taken on First Additional Language level. Thorough knowledge of language ensures that your child is able to understand and interpret all question papers correctly. All universities also have a minimum requirement in terms of literacy. The minimum requirement for language is 50%, although some institutions may require 60%. Excellent literacy skills are important for your child's future.

**Please note that all choice subjects are taught in double medium from Grade 10. This means that teaching alternates between Afrikaans and English in the same class. All questions may be**

**asked in the learner's Home Language and will be answered in the same language. Tests and examinations will also be written in the learner's home language.**

## **B) LIFE ORIENTATION**

This subject is all about learning life skills and preparing learners for the big world out there. Issues such as careers, values, lifestyle diseases, the influence of the media and many more are discussed in this subject. Your child is provided with information in order to equip him/her to make his/her own decisions and take responsibility for them.

## **C) Mathematics or Mathematical Literacy**

### **Mathematics:**

Mathematics is divided into two papers in grades 10 to 12:

- Paper 1 consists of Algebra, Finance and Probability.
- Paper 2 consists of Geometry, Data and Trigonometry. The following is important information about Mathematics Grades 10 – 12:
- You must have good prior knowledge of mathematics. Grade 8 and 9 background is very important.
- Learners who don't work very hard in Mathematics EVERY DAY, will not succeed. If you are only willing to do the minimum, Mathematics is not a good choice for you.
- The pace is much faster than in Grades 8 and 9, because the amount of work is much more. New work is introduced every day.
- Mathematics requires perseverance as well as problem solving skills.
- You MUST be positive about mathematics and take on the challenge, because it can be fun!

### **Mathematical literacy:**

What is Mathematical Literacy about?

- It's a subject that helps you with daily concepts.
- Topics covered include home loans, vehicle financing, income tax, investments and loans, as well as plans of houses, purchase of building materials, bank accounts and interest rates, the use of route maps, the scale of maps and much more.
- Mathematical Literacy equips learners to use mathematics with knowledge and confidence in everyday situations.
- It also helps learners to interpret and critically analyse situations both numerically and spatially, as well as to solve problems.
- What is done in Mathematical Literacy can always be used later.

**REMEMBER: Mathematical Literacy is NOT EASY. You must WORK HARD, LEARN and DO YOUR PART.**

## **WHAT DOES IT MEAN FOR YOUR CHILD?**

**Your child has SELF-CONFIDENCE, is POSITIVE, UNDERSTANDS and CAN do the work!!**

### **THE BIG QUESTION AT THE END OF GRADE 9 IS:**

**What do I choose? Mathematics? Or Mathematical Literacy?**

**Keep the following in mind before choosing between Mathematics and Mathematical Literacy:**

Mathematics with a mark of 30% - 49%, do NOT open any doors at Universities! Every year there are learners who do NOT achieve university exemption because they took Mathematics and could not achieve 50%. They are therefore unable to achieve the required FOUR subjects (from approved choices) above 50%. It even happens that a learner who passed with four distinctions did not gain university entrance, because of subject choices and 40% for Mathematics. However, if he/she had taken Mathematical Literacy and passed with more than 50%, the learner would have achieved exemption. Also, do not forget the effect of final marks on the required APS.

There is definitely a future for learners who take Mathematical Literacy. With Mathematical Literacy you can study the following, amongst others:

#### **Bachelor degrees**

Nursing, Podiatrist, Journalism, Psychology, Law, Management, Social work, Design (various fields), Visual Arts, Drama, Fashion Design, Multimedia, Somatology, Cosmetology, Sport management, Bed (Education), Hotelkeeping and Catering, Tourism and many more.

#### **National Diplomas**

Radiography, Hospitality, Logistics, Marketing, Banking, Credit Control, General Management

**Needless to say, the right choice is VERY IMPORTANT!!**

### 3. LIST OF CHOICE SUBJECTS

#### CHOOSE THREE OF THE FOLLOWING SUBJECTS:

- a) Physical Sciences (Requirements: Mathematics)
- b) Life Sciences
- c) Computer Application Theory (CAT)
- d) Hospitality studies
- e) Tourism
- f) Geography
- g) Accounting (Requirements: Mathematics)
- h) Business Studies
- i) Engineering Graphic & Design
- j) Civil Technology

### 4. SUBJECT INFO

#### a) PHYSICAL SCIENCES

This is the subject that provides answers to all the things that happen around us every day.

It is the subject for the learner who is interested in the world around them and who is always asking: “Why?”

#### WHAT DO I NEED TO MAKE A SUCCESS OF PHYSICAL SCIENCES?

- **Ability to think:**

A learner must be able to learn and understand different concepts

- **Ability to use knowledge:**

A learner must be able to apply knowledge and do different calculations.

- **Insight and logical reasoning:**

A learner must be able to apply knowledge in everyday life.

It is recommended that you achieve a good mark for Mathematics and Natural Sciences in grade 9 before choosing Physical Sciences. You will struggle with Physical Sciences if you have a mark lower than 60% for these two subjects. You require mathematical skills and concepts in Physical Sciences, and that is why Mathematics is a requirement for the subject.

## **THE SUBJECT CONSISTS OF TWO COMPONENTS**

1. Physics
2. Chemistry

### **Physics:**

- Waves, sound & light
- Electricity & magnetism
- Mechanics

### **Chemistry:**

- Matter and materials
- Chemical change
- Chemical systems

## **PHYSICAL SCIENCE IS THE SUBJECT FOR YOU IF YOU CAN:**

- Work hard
- Work smart

## **B) LIFE SCIENCES**

### **\* WHAT IS NEEDED?**

#### **Scientific thinking**

- Integration of research and findings
- Interpretation of data
- Analysis of data
- Problem solving
- Drawing conclusions based on information collected
- Hypothesis testing

#### **CONTENT**

- Parasitology
- Ecology
- Environmental Studies
- Biodiversity
- Evolution
- Cellular and Molecular Studies
- Systematics and Classification
- Genetics

- Neurology
- Embryology
- Anatomy

## **CAREER OPPORTUNITIES**

Medical (MBChD), Physiotherapy, Occupational Therapy, Radiology, Speech Therapy, Audiology, Sport Science, Veterinary Science / Veterinary Nursing, Somatology, Anthropology, Parasitology, Entomology, Agricultural Science, Botany and Zoology, Environmental studies, Nature conservation.

*(Life Sciences isn't a requirement for the above-mentioned subjects, but your studies will be so much easier if the basics concepts are mastered already.)*

**□ Life Science is important to anyone who has a lively interest in the composition and interaction of nature and ecosystems. It also offers answers to all the “WHY” questions about yourself as a human being and other living organisms.**

**□ It is probably one of the most interesting subjects offered.**

## **c) COMPUTER APPLICATIONS TECHNOLOGY (CAT)**

### **WHAT IS CAT?**

- A study of the programs which make up the Microsoft Office suite: Word, Excel, Access, PowerPoint and HTML documents:
- Problem-solving skills are learned and practised using existing programmes.

### **CAT TEACHES YOU**

- End-user computer knowledge (theory) and skills (practical)
- High-level skills in Microsoft Word
- Intermediate to high-level skills in Excel
- Intermediate-level skills in Access
- High-level skills in PowerPoint
- Intermediate-level skills in HTML
- Information Management and research skills

## **FUTURE CAREERS**

- Any career for which you need university training, as the ability to do research is learned in CAT.
- All universities require a certain level of computer knowledge. Without CAT you will battle doing this as an extra subject. If you had CAT, you can get exemption (and save money). Many universities recommend CAT for all fields of study (also scientific courses).
- All careers demand computer skills – these you learn in CAT.
- It also prepares you to study in the field of computers.

## **WHO SHOULD CONSIDER CAT AS A SUBJECT?**

- Everybody!
- Learners interested in a career in graphic design, marketing, tourism, PA, business, accounting and science.
- Learners who have to start work after school.
- Entrepreneurs.
- Learners who want to achieve success at university.

## **REQUIREMENTS FOR CAT**

- Development of skills needs practice. The examinations include skills and knowledge. Without the skills you won't be able to finish in time.
- Homework/Regular work is essential: learners who do not have computers at home **MUST** do the homework on the school's system during break or after school.
- The willingness to work and learn. Theory work is study work!
- Flash drive (for portability of homework and projects).

*CAT examinations are on the same level as Maths and Science in terms of level of questioning (higher order/lower order thinking ratios).*

### **d) HOSPITALITY STUDIES**

Hospitality studies are a subject that does not only have academic value but also give learners the opportunity to gain valuable life skills for future use.

In the theory class we learn about all the facets of the restaurant, kitchen and also hotel management. We study chapters on hygiene, first aid, food preparation, restaurant organisation and lots more. Hospitality Studies

is a learning subject and have a lot of theory that the learners must learn per term.

What makes Hospitality studies such a popular and interesting subject is the practical component attached to it. Every cycle we will have a class practical where we will prepare food that we have studied in the theory class.

Learners will also do functions where they will get the opportunity to invite their parents as guests. Three- to five-course meals are then prepared for the guests. **We are also involved in functions outside school, when caterers will make use of our learners to help with serving and preparation of food for functions such as weddings and conferences.** Learners can be asked on short notice to be involved in school functions. These functions can be done over weekends or after hours. It is compulsory for learners to be involved in additional school functions.

For Grades 11 and 12, restaurant evenings are mandatory. Learners start at 15h00 with preparation in the kitchen, and everyone is excused at the end of the function, which is between 21h00 and 21h30. **No learner is excused from the restaurant evenings.**

**Dress code: Every learner has to buy a uniform (apron, jacket and hat). The cost is R350 - R400. When learners work as waiters, they have to wear a white button shirt and long black pants/skirt. Girls wearing a skirt should wear black stockings too.**

If a learner wants to include Hospitality in his future plans and career, he/she will be introduced to careers such as professional chef, restaurant management, food and beverage service, function coordinator, to only name a few.

For a learner who doesn't want to take it up as a career, there are still great opportunities to learn valuable life skills.

### **“Preparing food is part of our daily life”**

Students learn skills such as the correct ways of laying a table, etiquette, and food preparation and waiter service. It is a subject that gives any learner the opportunity to earn his/her own money by either becoming an entrepreneur or waitering at restaurants.

## **e) TOURISM**

### **WHY SHOULD TOURISM BE CONSIDERED AS A SUBJECT?**

The travel-and-tourism industry is one of the world's biggest employers and offers many exciting careers with endless adventures and activities. Although a recognised qualification would definitely help you find a job in the travel-and-tourism industry, employers also look for qualities such as a love of travel, enthusiasm, friendliness, an outgoing personality, a neat appearance, intercultural skills and a talent for marketing, liaison and public speaking. The ability to speak other languages is also a huge advantage in this industry. The subject Tourism is the study of the activities, services and businesses that offer travel experiences for groups or individuals. This includes the behaviour of tourists and the reasons why they travel, the businesses that serve tourists and the economic, social and environmental impact of tourism.

### **DIFFERENT TYPES OF TOURISM AND TOURISM PROFILES**

Business, Leisure, Adventure, Medical or health tourism, educational tourism, sport and leisure, Incentives, Shopping, Cultural, Religious. SIT (Special interests), Ecotourists, Backpackers or Gap year

### **SATISFYING ASPECTS**

- Meeting new people
- Your work significantly contributes to the country's foreign exchange reserves
- Opportunities to travel

### **DEMANDING ASPECTS**

- Dealing with difficult, unpleasant and demanding people
- Working under pressure
- Working long and irregular hours during in-season periods

### **REQUIREMENTS**

- able to -Working with all kinds of people
- Good communication and organization skills
- Excellent knowledge of South Africa's places of interest, geography, its unique history, politics and flora and fauna
- Ability to control groups of people and deal with unexpected situations

## **FIELDS OF STUDY IN THE TOURISM INDUSTRY**

### **What?**

BSc Tourism Management, BCom Tourism Management National Diploma in Tourism Management or Travel & Tourism

### **Where?**

NWU, NMMU, UNISA, DUT, CPUT, CUT, UJ, TUT and VUT What? Certificate in Tourism Where? FET colleges

### **CAREERS**

- Tourism planner/consultant
- Travel agent
- Air hostess
- B&B owner
- Restaurateur
- Travel journalist
- Entrepreneur

The value of this subject is that your general knowledge is improved and that you can communicate sensible in any conversation. If you are going to work with people in your careerchoice then this will be to your advantage.

### **f) GEOGRAPHY**

\* Geography is the study of the interaction between the earth and humans.

#### **INTERESTING TOPICS COVERED**

- Geomorphology (Study of the earth)
- Climatology (Study of the atmosphere)
- Demography (Study of people)
- Economic Geography
- GIS (Geographical Information Systems)
- Mapwork

## **CHALLENGES**

Mapwork has a small mathematical component because of the calculations that has to be done. Theory is mainly study work!

## **CAREERS**

Teacher, Town Planner, GIS operator, Environmental consultant, Pilot, Teacher, Intelligence Service, Environmental Officer (Dept of Tourism), Agricultural Officer (Dept of Agriculture). Annual Grade 11 excursion.

**g) ACCOUNTING** \* (Requirement: Mathematics)

## **CONTENT**

- Financial accounting Financial accounting focus on topics such as VAT, reconciliations, salaries and wages, accounting concepts and practises; financial statements of sole traders, partnerships and companies.
- Managerial accounting Managerial accounting mainly focuses on non-current assets, inventory management and valuation as well as internal control measures within a business and ethical principles.
- Resource management Resource management include budgets and cost accounting/ manufacturing.

## **CHARACTERISTICS OF AN ACCOUNTING STUDENT**

- Diligent and hard-working
- Above average numeric ability
- Dedication
- Organised

## **CAREERS**

Accountant/auditor, banking, financial management, broker, internal auditor, statistic management, marketing, financial advisor, tax specialist, forensic accountant and investment management. All B. Com degrees

## **REASONS WHY THE SUBJECT IS OF IMPORTANCE**

It helps you as an individual with better insight into your own budget and management of your own financial matters. It gives a better understanding of the work situation to understand decisions taken by management.

## **ACCOUNTING DEVELOPS THE FOLLOWING CHARACTERISTICS**

- ⊖ Ethical behaviour
- ⊖ Sound judgement
- ⊖ Thoroughness
- ⊖ Orderliness
- ⊖ Accuracy
- ⊖ Neatness

## **h) BUSINESS STUDIES**

### **\* TOPICS COVERED**

Business environments and business operations Socio-economic issues Social responsibilities Current labour laws Corporate Social Responsibility Entrepreneurial qualities Forms of ownership Creative thinking and business opportunities Human resource management Business enterprises' location and contracts Presentation of business information Self-management and team performances

## **SKILLS OF A BUSINESS STUDIES LEARNER**

- Interpretation and application skills
- Memorising skills Business Studies focus mainly on memorising facts, so this should be one of your strengths should you decide to choose the subject.

## **WHY IS BUSINESS STUDIES A GOOD CHOICE?**

It doesn't matter whether you want to start your own business one day or work for someone else, Business Studies provide you with enough information and knowledge to do both. Even if you become a qualified

beauty therapist or an engineer, you should be able to run your own business.

### **POSSIBLE CAREERS**

Enterprise management, marketing & advertising, human resources management, public works, entrepreneurial opportunities, functional management, business analyst, insurance broker, business consultant or communication manager. Choose Business Studies to teach You all about the world of business!

### **ADVANTAGES**

- Content of the subject is easy to understand,
  - If you memorise facts easily this is the ideal subject to improve your average.
- DISADVANTAGES**
- The workload of the subject is very high,
  - A lot of facts to study or to memorise.

### **i) ENGINEERING GRAPHIC AND DESIGN (EGD)**

#### **\* THE SPECIFIC AIMS OF EGD ARE TO TEACH THE FOLLOWING**

- Graphical drawings as the primary means of communication in the technological world
- Specific basic content and concepts within the contexts of Mechanical Technology, Civil Technology and Electrical Technology
- Various instrument and freehand drawing techniques and skills
- Solving technological problems through graphical drawings
- The application of the design process
- The implementation of CAD (Computer Aided Drawings/Design) as a drawing method.

### **CAREERS**

EGD equips a learner with the basic knowledge and drawing skills needed in the following careers:

- Architecture, landscape architecture
- Most engineering fields (e.g. civil, mechanical, aviation, maritime, agricultural, mining, etc.)
- Medical technician

- Industrial designer & Interior designer
- Quantity surveyor, Building management & City planner
- Teacher
- Graphic illustrator
- Jewellery designer, most producers and artists
- Model builder (scale models)
- Draughtsperson (e.g. steel structure, architectural, civil, design, electrical, etc.)
- Technicians
- CAD system operator

### **WHAT WILL EGD MEAN FOR A STUDENT IN GENERAL**

EDG is a subject that will give you a sense of self-satisfaction and a sense of accomplishment. They will learn to understand drawings in general and to help develop their 3D insight.

### **REQUIREMENTS FOR TAKING THIS SUBJECT**

It is recommended that students who take this subject also take Mathematics.

### **j) WHAT IS CIVIL TECHNOLOGY (Must have Maths, Physics and EGD)**

Civil Technology focuses on concepts and principles in the built environment and on the technological process. It embraces practical skills and the application of scientific principles. This subject aims to create and improve the built environment to enhance the quality of life of the individual and society and to ensure the sustainable use of the natural environment. The subject focuses on three main areas, namely:

- civil services;
- construction; and
- woodworking.

**The table below indicates the main topics in Civil Technology.**

Safety

Materials

Equipment

Graphics and communications

Terminology

Applied mechanics

Construction

Civil services

Quantities

Joining

### **TOPICS TO BE STUDIED IN CIVIL TECHNOLOGY**

- Methods of construction of joinery
- Methods of installation of joinery
- Designing of wooden structures for buildings
- Methods of sustaining wooden installations in a building
- Tools and equipment used in the building industry
- Woodwork joints
- Roof construction
- Materials: properties and uses
- Construction: from foundation to wall plate level
- Applied mechanics
- Steel structures
- Quantity surveying
- Graphics and communication
- Sewage and storm-water disposal
- Water supply
- Sanitary fittings and fitments
- Hot water systems
- Reticulation systems

### **SPECIFIC AIMS**

The aim of the subject Civil Technology is to develop the skills levels of learners from Grade 10 – 12 to such an extent that they will be able to enter a career pathway at a Further Education and Training college or a university immediately after obtaining the National Senior Certificate. Learners will be ready to enter into learnerships or apprenticeships that will prepare them for a trade test.

Through the integrated completion of theoretical work and the practical assessment tasks (PAT) skills in respect of the following will be developed:

- safe working practices;
- good housekeeping;
- first aid practices;
- interpretation of working drawings;
- erection of structures;
- working with accurate measurements; and
- workshop practice.

Knowledge of subject principles, combined with applied skills, equips the Civil Technology learner with a unique set of skills, placing her or him apart from other learners and in a category much desired by the first two years at tertiary level when studying engineering than learners without this background, giving them an advantage when studying engineering.

### **CAREER OPPORTUNITIES**

Learners offering Civil Technology will opt for one of the following career opportunities:

- apprenticeship to become an artisan;
- continued studies at a college in the NC(V) in a vocational career pathway;
- higher education at a university of technology;
- higher education at a university (to study engineering);
- working as an entrepreneur or working with an entrepreneur; or
- higher education to study technical education in order to become a teacher of technology.

○

### **CAREER AND LIFE EXPERIENCE OPPORTUNITIES FOR LEARNERS WITH A FOUNDATION IN CIVIL TECHNOLOGY INCLUDE THOSE OF:**

- carpenter and joiner;
- bricklayer;
- painter;
- plumber;
- drainlayer;
- roof specialist;
- cabinet maker;
- shutter hand;
- building inspector;
- quantity surveyor;
- architect;
- draughtsman;

- building surveyor;
- building technician;
- civil engineer;
- structural engineer; or
- civil technology teacher.