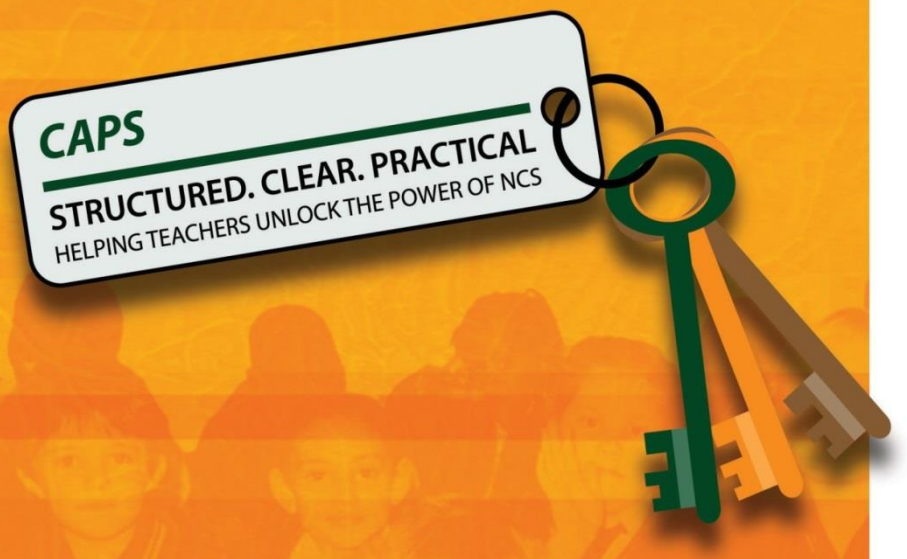
CIVIL TECHNOLOGY

NATIONAL CURRICULUM STATEMENT (NSC)

Curriculum Assessment Policy Statement: Occupational Subjects



Grade 8 - 9

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Curriculum and Assessment Policy Statement: Occupational Subjects

Grade 8 – 9

CIVIL TECHNOLOGY

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1.1 BACKGROUND

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

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

1.2 OVERVIEW

(a) The *National Curriculum Statement Grades R-12 (January 2012)* represents a policy statement for learning and teaching in South African schools and comprises the following:

(i) Curriculum and Assessment Policy Statements for each approved school subject;

(ii) The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and

(iii) The policy document, National Protocol for Assessment Grades R-12 (January 2012).

(b) The *National Curriculum Statement Grades R-12 (January 2012)* replaces the two current national curricula statements, namely the

(i) Revised National Curriculum Statement Grades R-9, Government Gazette No. 23406 of 31 May 2002, and

(ii) National Curriculum Statement Grades 10-12 Government Gazettes, No. 25545 of 6 October 2003 and No. 27594 of 17 May 2005.

(c) The national curriculum statements contemplated in subparagraphs b(i) and (ii) comprise the following policy documents which will be incrementally repealed by the *National Curriculum Statement Grades R-12 (January 2012)* during the period 2012-2014:

(i) *The Learning Area/Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R-9 and Grades 10-12;*

(ii) *The policy document, National Policy on assessment and qualifications for schools in the General Education and Training Band, promulgated in Government Notice No. 124 in Government Gazette No. 29626 of 12 February 2007;*

(iii) *The policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), promulgated in Government Gazette No.27819 of 20 July 2005;*

(iv) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding learners with special needs, published in Government Gazette, No.29466 of 11 December 2006, is incorporated in the policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and*

(v) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment (Grades R-12), promulgated in Government Notice No.1267 in Government Gazette No. 29467 of 11 December 2006.*

(d) The policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*, and the sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the *National Curriculum Statement Grades R-12.* It will therefore, in terms of *section 6A* of the *South African Schools Act, 1996 (Act No. 84 of 1996,)* form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

1.3 GENERAL AIMS OF THE SOUTH AFRICAN CURRICULUM

(a) The *National Curriculum Statement Grades R-12* gives expression to the knowledge, skills and values worth learning in South African schools. This curriculum aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own

lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives.

(b) The National Curriculum Statement Grades R-12 serves the purposes of:

- equipping learners, irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with the knowledge, skills and values necessary for self-fulfilment, and meaningful participation in society as citizens of a free country;
- providing access to higher education;
- facilitating the transition of learners from education institutions to the workplace; and
- providing employers with a sufficient profile of a learner's competences.

(c) The National Curriculum Statement Grades R-12 is based on the following principles:

- Social transformation: ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population;

- Active and critical learning: encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths;
- High knowledge and high skills: the minimum standards of knowledge and skills to be achieved at each grade are specified and set high, achievable standards in all subjects;

- Progression: content and context of each grade shows progression from simple to complex;

- Human rights, inclusivity, environmental and social justice: infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades R-12 is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors;

- Valuing indigenous knowledge systems: acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and

- Credibility, quality and efficiency: providing an education that is comparable in quality, breadth and depth to those of other countries.

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

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

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

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

1.4 TIME ALLOCATION

1.4.1 Foundation Phase

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

SUBJECT	GRADE R (HOURS)	GRDES 1-2 (HOURS)	GRADE 3 (HOURS)
Home Language	10	8/7	8/7
First Additional Language		2/3	3/4

Mathematics	7	7	7
Life Skills • Beginning Knowledge • Creative Arts • Physical Education • Personal and Social Well-being	**6** (1) (2) (2) (1)	**6** (1) (2) (2) (1)	**7** (2) (2) (2) (1)
TOTAL	**23**	**23**	**25**

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

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

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

1.4.2 Intermediate Phase

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

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

1.4.3 Senior Phase

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

SUBJECT	HOURS
Home Language	5
First Additional Language	4
Mathematics	4,5
Natural Sciences	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Creative Arts	2
A maximum of two subjects can be selected from the list of thirteen Elective Occupational subjects to replace any two of the following: Technology, Creative Arts and/or Economic and Management Sciences. The instructional time for these subjects is 2 hours each.	
TOTAL	27,5

Elective Occupational Subjects (Not more than 2)	
1. Agricultural Studies	Time Allocation per week: 2 hours each
2. Art and Design	
3. Digital Technology	
4. Early Childhood Development	
5. Mechanical Technology	
6. Civil Technology	
7. Civil Technology	
8. Hairdressing, Nail and Beauty Technology	
9. Ancillary Health Care Studies	
10. Services: Maintenance and Upholstery	
11. Consumer Studies	
12. Hospitality Studies	
13. Wholesale and Retail Studies	

Grades 10-12

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

SUBJECT	**Time allocation per week (hours)**
Home Language	4,5
First Additional Language	4,5
Mathematics	4,5
Life Orientation	2
A minimum of any three subjects selected from **Group B** Annexure B, Tables B1-B8 of the policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12,* subject to the provisos stipulated in paragraph 28 of the said policy document.	12 (3x4h)
	27,5

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

SECTION 2

2.1 What is Civil Technology?

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 alike and to ensure the sustainable use of the natural environment. The subject focuses on three main areas, namely:

- Civil services
- Construction
- Woodworking

In the following section, the respective areas of specialisation is described and placed within the intended context.

2.1.1 Civil Services

Civil services can be construed as plumbing, which focuses on the supply of cold and hot water supplies to a building, and the installation of a sewerage system enabling soiled waste water and storm water removal from a site. It focuses on materials and the way they are used to provide water and sanitation on a site, taking into account environmentally friendly technology (green energy). See the content overview for the subject specifics to gain insight of the topics taught.

2.1.2 Construction

Construction focuses on the development of concrete and brick structures in the built environment. It focuses on materials and the way they are used to provide infrastructures in the development of sites, taking into account environmentally friendly technology (green energy). See the content overview for the subject specifics to gain insight of the topics taught.

2.1.3 Woodworking

Woodworking works hand in hand with construction. It focuses on structures such as roof trusses, windows, doors and any part of a building that is made of timber. It also focuses on providing temporary supporting structures to construct permanent structures such as concrete floors, stairs, roofs and arches. See the content overview for the subject specifics to gain insight of the topics taught.

2.2 Specific Aims

The aim of the subject Civil Technology is to develop the skills levels of learners from Grades 8 – 9 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
- 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 industry, tertiary institutions and entrepreneurs. Learners with Civil Technology as a subject fare markedly better during the first two years at tertiary level when studying engineering than learners without this background, giving them an advantage over their peers.

2.3 Requirements for Civil Technology as a subject.

Schools wishing to offer Civil Technology as a subject to learners should consider the following requirements that should be met in order to successfully implement the subject into the school curriculum.

Civil Technology as a subject allows for three fields of specialisation. Typically a school wishing to offer more than one field of specialisation will have to comply with the following prerequisites:

- Can teachers offer all the chosen areas of specialisation?
- Does the workshop cater for the areas of specialisation?
- Is it possible to cater for different groups within school time-tabling?

- Schools offering more than one field of specialisation are not allowed to mix groups.

2.4 *Subject offering by learners taking Civil Technology*

Learners taking Civil Technology, Electrical Technology or Mechanical Technology will be required to make a selection from the following choices:

Choice 1	Choice 2	Choice 3
Mathematics	Mathematics	Mathematics
Natural Science	Natural Science	Natural Science
Civil Technology	Electrical Technology	Mechanical Technology
Engineering Graphics (**Compulsory**)	Engineering Graphics (**Compulsory**)	Engineering Graphics (**Compulsory**)

Additionally, a learner may opt to take an eighth and ninth subject with these packages. Subjects that could be considered by learners as additional subjects that have a strong linkage with Civil Technology, Electrical Technology or Mechanical Technology are:

- Computer Applications Technology
- Information Technology

Before this option is exercised at a school the following prerequisites/requirements are brought to the attention of the school management team:

- Availability of resources at the school
- Availability of a teacher to offer the subject outside normal contact time
- Adherence to all assessment requirements in terms of SBA and PAT
- A learner must take the subject from Grade 8 through to 12 and not only in Grade 12.

2.4.1 Time Allocation

The total number of hours allocated for the subject in a five-day cycle is 2 hours. Sufficient time must be allocated in the school timetable for the practical work required to be done. The work has to be planned and stipulated: 1 hour 30 minutes is allocated for practical work and 30 minutes for theoretical work

2.4.2 Resources

The offering of Civil Technology also requires human resources, Infrastructure, equipment and

Machinery.

2.4.3 Human Resources

Civil Technology requires a trained subject specialist. It is preferred that the teacher offering Civil Technology is an artisan/ technician/technical teacher in a Civil Technology-related area. Industry-related experience and workshop management skills are essential and a tertiary qualification in technical teaching is needed.

2.4.5 Civil Technology teachers are required to:

- Teach the subject content with confidence and flair
- Interact with learners in a relaxed but firm manner
- Manage the workshop resourcing, budget & safety
- Manage the teaching environment
- Conduct stock taking and inventory
- Plan for practical work
- Plan for theory lessons
- Conduct weekly practical sessions
- Maintain and service the workshop as a whole
- Maintain and service the tools and instruments
- Ensure learner safety
- Produce working PAT projects in cooperation with learners
- Carry out School-based Assessment (SBA)
- Implement innovative methods to keep the subject interesting
- Are self-motivated to keep her/him abreast of the latest technological developments
- Regularly attend skills workshops

2.5 A Workshop Assistant

A workshop assistant for Civil Technology workshop is required to service the workshop. The purpose of this assistant is to perform preventative, maintenance, upgrading service and repair of devices in cooperation with the teacher. An assistant in the Civil Technology workshop must a sound background of any of the Three Civil Technology subjects.

2.6 The following requirements are of the utmost importance in the offering of the subject:

2.6.1 Equipped Workshop

Civil Technology cannot be implemented in a school without a well-equipped workshop. Electricity supply to the workshop is crucial and a three phase, four-wire supply is needed. Lighting and ventilation is of extreme importance and a workshop should ideally have multiple exits with doors that open outward. Windowpanes should be fitted and broken panes should be replaced.

Tools and equipment should have sufficient storage and well developed storage management systems with an up to date inventory. Shelves should be clearly marked and storage areas defined.

Floors should have the needed demarcated markings and all areas should be clearly defined using green, yellow and black paint, in line with industry standards. No carpets or nylon flooring is allowed. Rubber mats should be installed in areas where learners will work with installations that will be energized.

Walls should contain subject related posters and a designated area where learner projects can be exhibited should be clearly visible.

Good housekeeping principles require that all workshops be cleaned regularly. A suitable waste removal system should be in place to accommodate refuse, off-cut materials as well as chemical waste. The requirements of the Occupational Health and Safety (OHS) Act 85 of 1993 need to be complied with at all times.

A workshop assistant for the Civil Technology workshop is required to service the workshop. The purpose of this assistant is to perform preventative maintenance, maintenance, upgrading, service and repair of devices in cooperation with the subject teacher.

The workshop assistant is also required to assist in the safe preparation and completion of practical sessions with regards to issuing equipment and tools, keeping register of all equipment and performing regular inventory stock taking.

An assistant in a Civil Technology workshop will be technically trained depending on the focus of the specialisation at the school. The assistant will also have a sound working knowledge of the

OHS Act and workshop related safety. Instruments, measuring equipment and training equipment should have dust covers to keep them clean.Tables, workbenches and machinery on stands should be permanently affixed to the floor, with isolation switches for the mains supply. All machines should have working machine guards.

Electrical motors should ideally be painted bright orange. Specification plates should be clearly legible.
The workshop must have a lockable mains distribution board. The workshop must be fitted with emergency cut-off switch/es which is/are easily accessible at all times. The red, mushroom type, emergency switch should preferably be lockable to prevent accidental re-connection with mains in the case of it being activated.

2.6.2 Sustainable Support

Civil Technology is a subject that requires sustained support. The Civil Technology workshop requires regular resourcing for the purpose of completion of practical work as well as maintenance. Resourcing could be sub-divided into the following categories:

- Safety Equipment
- Tools and Equipment
- Consumable Materials
- PAT Resources
- Teaching and Learning Support Material
- Preventative Maintenance
- Maintenance

School management teams (SMT) at schools offering Civil Technology should take note of the implications that the Civil Technology workshop has on the budget of the school.

Whilst it is common practice to provide a working budget to a workshop, it is imperative to note that the budget should be structured to not only cater for the completion of PAT by the learners, but should also allow for the teacher to replenish tools and equipment, and acquire consumable materials for experiments, demonstrations and simulations.

Apart from the PAT resources needed, the teacher must also be allowed to supplement teaching and learning support material in the form of posters, models, examples, videos, periodicals and more.

Preventative maintenance of training equipment on a regular basis, as well as provisioning for the inevitable failure of equipment, should not be disregarded, and the SMT of a school should have in place a plan to regularly phase out and replace obsolete equipment and tools.

2.6.3 Career Opportunities

Learners taking 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 occupational opportunities for learners with a foundation in Civil Technology include, but are not limited to:

- carpenter and joiner
- bricklayer
- tiler
- painter
- plumber
- drainlayer
- roof specialist
- shutter hand
- civil technology educator
- building inspector
- quantity surveyor
- architect
- draughtsperson
- building surveyor
- engineering technician (civil)
- engineering technologist (civil)

- civil engineer

SECTION 3:

OVERVIEW OF TOPICS PER TERM AND ANNUAL TEACHING PLANS

Listed below are topics per grade with a short explanation on the focus. There is content progression on topics covered in grade 8-9.

3.1 Content Outline

CIVIL TECHNOLOGY WOODWORKING	
Grade 8	**Grade 9**
Occupational Health And Safety Workshop Rules And Procedures	Occupational Health And Safety
Graphic Communication	Graphic Communication
Tools And Measuring Instruments	Tools And Measuring Instruments
Entrepreneurship	Entrepreneurship
Materials	Materials
Quantities	Quantities
Joining	Joining
Casement	Casement
Doors	Doors

3.2 CONTENT OUTLINE PER TERM

Grade 8

Term 1

WEEK	TOPIC	CONTENT
Week 1	**PAT Introduction.**	Theoretical explanation as well as practical demonstrations. Videos about safety Worksheet • Oral discussions in pairs and in groups • Access information from reference books or suitable resources • Sort information • Written presentations • Present information visually • Practical demonstration **Practical assessment task or Project (PAT) should start in week one** • Apply safety to every aspect of the work • Work schedule which includes drawings, cutting lists and mark rubrics must be given to the learners at the beginning of the PAT • Use the practical model or project to demonstrate and teach the learners the different aspects of the topics • Accuracy is important • Demonstrate how to read a ruler in mm • Make one or more templates the learners can use • The educator must demonstrate the correct way of handling the Tenon saw, this includes the stance, holding and cutting. When the project includes curved cutting it must be done by the educator • The practical project (PAT) must be planned in such a way to incorporate the different joints

		• Make samples of the joints which will be used. Demonstrate to the learners first how to do the joint step by step • Demonstrate to the learners the application of the different fasteners. Again the correct procedure of using woodscrews is important. (Pilot hole, shaft and countersunk) • Examples of PAT models are: o Candle stick holders o Bread board or chopping plank o Pencil holders o Simple Trays o Bird Feeders The learner should be able to name and identify all the finishing products, but the demonstration of the use, is limited to the PAT
3 weeks 12 hours	**Health and Safety**	Workshop orientation Workshop rules and procedures ➢ Workshop Safety ➢ Definition of Accident ➢ Causes of Accidents ➢ Unsafe Acts ➢ Unsafe Conditions ➢ Good housekeeping Personal safety equipment ➢ Eye and ear protection ➢ Head protection ➢ Footwear ➢ Protective clothing Safety signs ➢ Information signs ➢ prohibitions Emergency Evacuation Procedure Basic First Aid ➢ What is HIV/AID and infectious Disease? ➢ How are diseases transmitted ➢ Basic First Aid – incident management ➢ Define first aid What is a first aid kit and what does it entail? Types of injuries ➢ Cuts ➢ Burns ➢ Fractures ➢ Trauma (Shock)

		Practical ➢ Demonstrate application of basic first aid. ➢ Stop bleeding ➢ Perform and Emergency Evacuation drill (exercise)
3 weeks 12 hours	**Graphics Communication**	**Introduction of Graphics communication** ➢ What is graphic Communication ➢ The purpose of Graphics Communication ➢ General drawing principles ➢ Safety precautions when using drawing instruments ➢ Correct use and care of drawing instruments ➢ Free hand sketches ➢ Types of lines ➢ Lines (SANS110 guidelines) ➢ dimensions, lettering and border ➢ Freehand drawing ➢ Scale drawing 1:1 and 1:2 ➢ Pictorial Drawings
3 weeks **12 hours**	**Tools and instruments**	Identification of the following: Measuring and setting out tools: • Mortise gauge • Folding rule Cutting tools: • Panel saw • Cross cut saw • Firmer rectangular chisel Knocking tools: • Warrington (cross peen) hammer Files (Rasps): • Round file • Half round file **Practical demonstration of the following:** ➢ Different types of tools ➢ Use a mortise gauge to measure on a piece of wood a hole and use the chisel to chisel out the hole. **Practical**

		1. Use the different types of saws to demonstrate how to saw a piece of wood the correct way. 2. Measure and mark out a tongue and groove joint, use the tools to complete the joint.
	Revision Term 1 Assignment	Assignment = 50 Marks :40 % Practical = 50 Marks: 60% Assignment/Simulation to cover all work done in term 1 Time: 1 hour

Term 2

WEEK	**TOPIC**	**CONTENT**
3 weeks **12 hours**	**Power Tools**	• Name, Identify, describe and demonstrate the correct use **practically**, caring and safety of the following portable machines: • Electric hand drill • Screwdriver • Jig saw • Orbital sanders
1 week **2hrs**	**Entrepreneurship**	What is entrepreneurship ➢ Who is an entrepreneur ➢ Types of entrepreneurship ➢ Marketing and branding products ➢ Advertising on media platform
3 weeks **12 hours**	**Materials**	Basic properties of materials: Timber hard wood, soft wood and board products: • Saligna • Meranti • SA pine • Shutter board

		• Ply wood • Block board • Tempered and standard masonite (hard board) Sketch and labels of the cross-section of a tree trunk. **Practical** 1. Use a piece of wood and draw a figure on the wood, demonstrate by using a jig saw to cut the figure out of the wood. Let each learner cut his/her figure out of the wood using the jig saw. 2. To finish of the piece of wood use the orbital sander.
	CONSOLIDATION, MID-YEAR EXAMINATION AND COMPLETION OF SECOND PHASE OF PAT	
	Revision and examination	Exam= 80 marks= 40% Practical=50 marks =60% Examination to cover all work done in term 1and term2 Time: 1 hour 30 minutes

Term 3

WEEK	**TOPIC**	**CONTENT** **The learner is able to:**
3 weeks **12 hrs**	**QUANTITIES**	Calculate the following: • Volume of concrete for a straight trench • Square meter of materials such as tiles and brick walls • Length of skirting and quarter round moulding
2 weeks **8 hrs**	**CASEMENT**	Introduction to Casements Sketches of vertical sections through the following members of a casement: • Top rail

		• Stile
4 weeks **16 hours**	**JOINING**	Introduction to Joining. Identify and explain the uses of: Screws: • Countersunk head • Round head • Raised head • Jetting screw • Drywall screw • Self-cutting bolt head screw • Drill tip bolt head screw • Coach screw Advantages of using screws over nails. Nails: • Round wire • Masonry • Clout nail • Steel cut nail • Oval nail • Panel pin • Clout nail • Brad nails
	Assessment	Test = 50 Marks :40 % Practical =50 Marks:60% Test to cover all work done in term 3 Time: 1 hour

Term 4

WEEK	TOPIC	CONTENT
4 weeks **16 hrs**	**DOORS**	Internal doors: Drawing of the front elevations, horizontal sections, application and constructional details of the following doors: • Hollow core flush panel door • Solid laminated flush panel door
	Revision	Revision of all terms works
	November Examination	Examination=120 marks=40% Practical =marks=60%

Grade 9 Term 1

WEEK	TOPIC	CONTENT
Week 1	**PAT INTRODUCTION**	**Practical assessment task or Project (PAT) should start in week one** • Apply safety to every aspect of the work • Work schedule which includes drawings, cutting lists and mark rubrics must be given to the learners at the beginning of the PAT • Use the practical model or project to demonstrate and teach the learners the different aspects of the topics • Accuracy is important • Make one or more templates the learners can use • The educator must demonstrate the correct way of handling the tools, this includes the stance, holding and cutting. When the project includes curved cutting it must be done by the educator • The practical project (PAT) must be planned in such a way to incorporate the different joints

		Examples of PAT models: • Chess Tables • Chairs Examples of PAT models: • Breakfast nook chairs • Bed frames • Letter box • The learner should be able to identify all finishing products but the demonstration of the use is limited to the PAT • Machine tools include the safety, caring and use thereof
2 weeks **8hrs**	**Health and Safety**	• **Demonstrate and apply the following safety rules:** • Personal safety– Personal Protective Equipment (PPE) • General workshop safety (Safe working procedures and good house-keeping) • Application of safety measures for Power tools and machinery • Safety when storing materials. (Wood and other consumables like paint and thinners) • HIV / Aids awareness ➢ Basic first aid – cuts, burns
2 weeks **8 hrs**	**Graphics Communication**	Revision of grade 8 work Freehand Drawings Geometrical drawings Isometric and Orthographic drawings
3 weeks **12 hrs**	**Tools and instruments**	• Name, Identify, describe and demonstrate the correct use, caring and safety of the following portable machines: • Electric hand drill • Screwdriver • Jig saw • Orbital sanders

		• Belt sander • Skill saw • Planer • Biscuit joiner • Router **Measuring tools** • Sliding bevel • Marking gauge • Mortise gauge **Cutting tools** • Saws • Rip saw • Dove tail saw • Coping saw • Hacksaw **Planning tools** • Spoke shave **Chisels** • Firmer chisel • Paring chisel • Mortise chisel • Gouges **Miscellaneous tools** • Wooden mallet • Oilstones • Punches • Files and Rasps

		Boring Equipment • Wheel brace or Hand drill • Ratchet hand brace • Drills and Bits • Auger bits or twist bits • Jennings pattern • Solid centre auger bit • Forstner bit • Morse drill or twist drill • Countersink bit • Centre bit • Screwdriver bit • Expansive bit • Flat bits • Hole saws • Plug cutter **Pliers** • Pincers • Cutting pliers **Types of Clamps** • Sash clamps • T-bar clamps
2hrs	**Entrepreneurship**	What is entrepreneurship ➢ Who is an entrepreneur ➢ Types of entrepreneurship ➢ Marketing and branding products ➢ Advertising on media platform ➢ Sourcing of funds ➢ Costing ➢ Business plan
	Revision and Assessment	Assignment = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Assignment to cover all work done in term 1

Grade 9 Term 2

WEEK	TOPIC	CONTENT
4 weeks **16 hours**	**Materials**	**Identify and describe the following:** • Conversion methods of timber. (Through and through, square and quarter methods) • Characteristics of TWO soft and TWO hardwoods **Characteristics of:** • Hardboard • Chipboard • Supawood • Plywood • Marine-ply • Soft board Sketch and labels of the cross-section of a tree trunk. Description and sketches of the following timber defects: • Heart shake • Cup shake • Star shake • Waney edges • Knots
3 weeks **12 hours**	**QUANTITIES**	Calculation of materials and sundry items for a simple bathroom cabinet with framed door/s to house a mirror, glass or flat panel Cutting list for the following doors: • One and two panel doors with flat panels
	CONSOLIDATION, MID-YEAR EXAMINATION AND COMPLETION OF SECOND PHASE OF PAT: Revision and Assessment	

	Practical =50 marks =60% Mid-year Examination =80 marks = 40%

Grade 9 Term 3

WEEK	TOPIC	CONTENT
3 weeks **12 hours**	**JOINING**	Name, Identify and make all the joints done during the year, plus the following Joints to widen boards • Butt or Rubbed joint • Tongue-and-groove • Loose-tongue joint • Dowelled joint Lamello biscuit joint
3 weeks **12 hours**	**ROOF TRUSSES**	**Name, identify and Explain different types of roof trusses that are used in: mono pitch roofs, standing roofs, tiled roofs and thatched roofs.** **Types of Roof Trusses** • King post • South African Roof truss • Queen post • Etc. Identify the different members of the roof trusses above and the different methods used to connect and fasten (join) them.
2 weeks **4 hours**	**CASEMENT**	Sketches of horizontal sections through the following frame members of a casement: • Frame head • Frame stile

		• Sill
	Revision and Assessment	Term 3 Test = 50marks =40% Practical formal Assessment =50 Marks , 60%

Grade 9 Term 4

WEEK	TOPIC	CONTENT
4 weeks **16 hrs**	**DOORS**	Demonstrate the correct installation of different types of doors (Panel, Hollow core, Z frame and cabinet doors) Differentiate between doors used for internal purposes and external doors • Construction methods (Theory only) • Hanging of doors • Lock fitting on doors • Preserving of doors
	Revision and Examination Promotion mark	Examination=120 marks=40% Practical 50marks=60%

SECTION 3:

OVERVIEW OF TOPICS PER TERM AND ANNUAL TEACHING PLANS

Listed below are topics per grade with a short explanation on the focus. There is content progression on topics covered in grade 8-9.

3.1 Content Outline

CIVIL SERVICES	
Grade 8	**Grade 9**
Occupational Health and Safety Workshop rules and procedures	Occupational Health and Safety
Graphic Communication	Graphic Communication
Hand tools and Measuring Instruments The use, care of tools and measuring instruments	Machines and tools
Entrepreneurship	Entrepreneurship
Materials Ferrous and non-ferrous metals	Materials Application and use of materials
Quantities	Quantities
Joining	Joining
The water cycle	Cold water supply
Sanitary fittings	Hot water supply
Drainage	

3.2 CONTENT OUTLINE PER TERM

Grade 8

Term 1

WEEK	TOPIC	CONTENT
	PAT INTRODUCTION	**Techniques**: The Teacher should explain the function of the different types of fittings (soldering or screw tread). (Demonstration) **Activities:** Learners should use the fittings and create their own practical Model (planning, drawings manufacturing steps).
4hrs	**Health and Safety**	Workshop orientation Workshop rules and procedures ➢ Workshop Safety ➢ Definition of Accident ➢ Causes of Accidents ➢ Unsafe Acts ➢ Unsafe Conditions ➢ Good housekeeping Personal safety equipment ➢ Eye and ear protection ➢ Head protection ➢ Footwear ➢ Protective clothing Safety signs ➢ Information signs ➢ prohibitions Emergency Evacuation Procedure Basic First Aid ➢ What is HIV/AID and infectious Disease? ➢ How are diseases transmitted ➢ Basic First Aid – incident management ➢ Define first aid

		What is a first aid kit and what does it entail? Types of injuries ➢ Cuts ➢ Burns ➢ Fractures ➢ Trauma (Shock) **Practical** ➢ Demonstrate application of basic first aid. ➢ Stop bleeding ➢ Perform and Emergency Evacuation drill (exercise)
5hrs	**Graphics Communication**	Introduction of Graphics communication ➢ What is graphic Communication ➢ The purpose of Graphics Communication ➢ General drawing principles ➢ Safety precautions when using drawing instruments ➢ Correct use and care of drawing instruments ➢ Free hand sketches ➢ Types of lines ➢ Lines (SANS110 guidelines) ➢ dimensions, lettering and border ➢ Freehand drawing ➢ Scale drawing 1:1 and 1:2 ➢ Pictorial Drawings
5hrs	**Hand tools and instruments**	**Identification of parts and functions including care and safe use of:** Identify, use and care of the tools and measuring instruments. **Hand tools** ➢ Pipe wrench ➢ Basin wrench ➢ Adjustable wrench ➢ Pipe saw/hack saw ➢ Tin snips ➢ Pipe cutter ➢ Pipe reamer ➢ Plunger ➢ Propane torch ➢ Plumber tape ➢ Steel ruler ➢ Steel square ➢ Scriber ➢ Pop rivet gun

		➢ Seam iron ➢ Ball peen hammer ➢ Anvil **Practical demonstration of the following:** ➢ Different types of tools ➢ Use a pipe cutter to cut a piece of copper pipe and clean it with the pipe reamer. **Practical** 1. Use a pipe cutter to cut a piece of copper pipe and clean it with the pipe reamer. 2. Measure and mark out a square shape on sheet metal and cut it out using a tin snip.
2hrs	**Entrepreneurship**	What is entrepreneurship ➢ Who is an entrepreneur ➢ Types of entrepreneurship ➢ Marketing and branding products ➢ Advertising on media platform
	Revision Term 1 Assignment	Assignment = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Assignment to cover all work done in term 1

Term 2

WEEK	TOPIC	CONTENT
2hrs	**Materials**	**Ferrous and non-ferrous metals** Examples of ferrous metals: ➢ Cast iron ➢ Wrought iron/ forged iron ➢ Low-carbon steel ➢ Stainless steel Examples of non-ferrous metals: ➢ Aluminium ➢ Bronze ➢ Copper ➢ Lead ➢ Tin ➢ Zinc **Practical task** Sort materials from a selection of materials and indicate which are ferrous or non-ferrous metals.
10 hrs	**Quantities**	**Units used in this section** ➢ meter ➢ millimeter ➢ square meter ➢ Cubic meter **Calculation of areas** ➢ Square ➢ Rectangle ➢ Triangle ➢ Circle **Calculating volumes** ➢ Square ➢ Rectangle
4 hrs	**Joining**	**Joining of sheet metal**

		➢ Joining of sheet metal by means of a lap joint ➢ Joining of sheet metal by means of pop rivets **Practical** 1. Use sheet metal and shape it into a cylindrical shape by using a ball peen hammer and anvil. Join the sheet metal by means of a lap joint. Use the seam iron and ball peen hammer to connect the two sides of the sheet metal with a lap joint. 2. Use sheet metal and shape it into a square shape by using a ball peen hammer and anvil. Join the sheet metal by means of pop rivets. Use a pop rivet gun and pop rivets to join the two sides of the sheet metal.
	Revision and examination	Exam= 80 marks= 40% Practical=50 marks =60% Examination to cover all work done in term 1and term2 Time: 1 hour 30 minutes

Term 3

WEEK	TOPIC	CONTENT The learner is able to:
8 hrs	**The water cycle**	**Understand the cycle of water** ➢ Illustrate the cycle of water by means of a diagram ➢ Water catchment areas ➢ Dams ➢ Reservoirs ➢ Different sources of water **Drinking water treatment process** ➢ Illustrate the cycle of water by means of a diagram ➢ Water catchment areas **Practical** 1. Make a poster that explains the cycle of water by means of a detailed diagram.
4 hrs	**Sanitary fittings**	**Identify different sanitary fittings and draw the symbols of each** ➢ Water closet ➢ Wash basin ➢ Bath ➢ Shower ➢ Sink ➢ Bidet ➢ Urinal **Activity** Identify different sanitary fittings and draw the symbols for each.
	Assessment	Test = 50 Marks :40 % Practical =50 Marks:60%

		Time: 1 hour Test to cover all work done in term 3
		Activity 2: - Formal written assessment **50 Marks** – 40%

Term 4

WEEK	TOPIC	CONTENT
16 hrs	**Floor plans with sewerage layout**	**Interpretation and drawing of basic floorplans and the sewerage layout.** Components used in a Sewerage layout: ➢ Rodding eye ➢ pipes ➢ gully ➢ inspection eye ➢ manhole ➢ vent pipe **Practical:** Complete the layout of the floorplan by drawing the sanitary fittings and sewerage layout.
	Revision	Revision of all terms works
	November Examination	Examination=120 marks=40% Practical =marks=60%

Grade 9 Term 1

WEEK	TOPIC	CONTENT
	INTRDUCTION TO PAT	**Techniques**: The Teacher should explain/show (practically) the soldering of copper pipes and joints. (Demonstration) **Activities:** Learners should solder the copper pipes and fitting to create a model. **Resources**: Different types of fittings, pipes, dvd, video's and smart board. **Learners to show creative skills by using soldering of copper pipes and create a model. (Lampstand ect.)**
4hrs	**Health and Safety**	General Safety rules ➢ Unsafe Acts ➢ Unsafe Conditions Use personal protective equipment (PPE) Good housekeeping Workshop layout Demarcated areas, emergency stops, exits and first aid stations Safety signs Fire prevention and protection ➢ Elements of fire ➢ Classification of fires ➢ Causes of fires Types of firefighting equipment Basic First Aid – response and incident management Practical Skill – ➢ First aid for fractured arm ➢ First aid for shock
4hrs	**Graphics Communication**	Revision of grade 8 work Freehand Drawings Geometrical drawings

		Isometric and Orthographic drawings
5hrs	**Tools and instruments**	**Revision of tools covered in Grade 8** **Identify parts and functions including care and correct and safe use of the following machines and tools:** ➢ Pipe cutting machine ➢ Pipe reamer ➢ Sheet bending machine ➢ Guilotine ➢ Pipe rolling machine ➢ Tile cutter ➢ Soldering iron ➢ Propane torch **Practical** Soldering techniques on copper pipe
2hrs	**Entrepreneurship**	What is entrepreneurship ➢ Who is an entrepreneur ➢ Types of entrepreneurship ➢ Marketing and branding products ➢ Advertising on media platform ➢ Sourcing of funds ➢ Costing ➢ Business plan
	Revision and Assessment	Assignment = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Assignment to cover all work done in term 1

Grade 9 Term 2

WEEK	TOPIC	CONTENT
2hrs	**Materials**	Types and uses of materials ➢ Concrete ➢ Screed ➢ Mortar ➢ PVC ➢ Copper ➢ Galvanised metal pipe ➢ Thermo plastics ➢ Thermo-setting plastics ➢ Different types of lead **Activity** Identify and explain uses of different materials
10hrs	**Quantities**	Calculating the area of a small building Calculating the volume of square water tanks **Practical** Calculate the amount of bricks needed for a small building if a brick is 220 x 75 x 110mm.
	Revision and Assessment Practical =50 marks =60% Mid-year Examination =80 marks = 40%	

Grade 9 Term 3

WEEK	TOPIC	CONTENT
8hrs	**Joining**	**Joining methods of the following types of pipes:** ➢ Copper ➢ PVC ➢ Galvanized metal pipe **Practical** • Join two pieces of copper pipe by soldering them together • Join two pieces of PVC pipe by using PVC weld • Join two pieces of galvanized pipe by cutting thread and connecting them
6 hrs	**Cold water supply**	**Identify different types of taps** ➢ Pillar tap ➢ Bib cock ➢ Non-return valve ➢ Stop cock Demonstrate an understanding of the different taps and where to use them: **Practical:** Identify the different taps and explain how and where to use them **Joints and fittings to use in cold water systems** ➢ P-trap ➢ S-trap ➢ T-connection ➢ 90º elbow ➢ Straight connector ➢ 45º bend **Activity:** Make neat drawings to show the different types of fittings used in cold water systems
	Revision	Term 3 Test = 50marks =40% Practical formal Assessment =50 Marks , 60%

	and **Assessment**	

Grade 9 Term 4

WEEK	TOPIC	CONTENT
16 hrs	**Hot water supply** **High pressure geyser**	Identify the different parts of the high-pressure geyser. Draw a diagram that explains the installation of a high-pressure geyser. **Practical:** Draw a diagram that shows the installation of a high-pressure geyser Connect the pipework of a geyser that is wall mounted.
	Revision and Examination Promotion mark	Examination=120 marks=40% Practical 50marks=60%

SECTION 3:

OVERVIEW OF TOPICS PER TERM AND ANNUAL TEACHING PLANS

Listed below are topics per grade with a short explanation on the focus. There is content progression on topics covered in grade 8-9.

3.1 Content Outline

CIVIL TECHNOLOGY CONSTRUCTION	
Grade 8	Grade 9
Occupational Health and Safety Workshop rules and procedures	Occupational Health and Safety
Tools and Measuring Instruments	Tools and Measuring Instruments
Materials	Materials
Bricks	SI units
Foundations	Building symbols
	Types of soil
Structures	Structures

3.2 CONTENT OUTLINE PER TERM

Grade 8

Term 1

WEEK	TOPIC	CONTENT
6 hrs	**Health and Safety**	Workshop orientation Workshop rules and procedures ➢ Workshop Safety ➢ Definition of Accident ➢ Causes of Accidents ➢ Unsafe Acts ➢ Unsafe Conditions ➢ Good housekeeping Personal safety equipment ➢ Eye and ear protection ➢ Head protection ➢ Footwear ➢ Protective clothing Safety signs ➢ Information signs ➢ prohibitions Emergency Evacuation Procedure Basic First Aid ➢ What is HIV/AID and infectious Disease? ➢ How are diseases transmitted ➢ Basic First Aid – incident management ➢ Define first aid What is a first aid kit and what does it entail? Types of injuries ➢ Cuts ➢ Burns ➢ Fractures ➢ Trauma (Shock) **Practical** ➢ Demonstrate application of basic first aid. ➢ Stop bleeding ➢ Perform and Emergency Evacuation drill (exercise)

8 hrs	**Tools and instruments**	**Identification of parts and functions including care and safe use of:** Identify, use and care of the tools and measuring instruments. **Hand tools and the uses** ➢ Spirit level ➢ Wheel burrow ➢ Types of spades ➢ Trowels: types ➢ Hammers ➢ Comb hammer ➢ Flout ➢ Block Brush ➢ [Strait edge ➢ [Hacksaw ➢ Files ➢ Chisel PRACTICAL demonstration and use of tools, charts and identification.
	Revision Term 1 Assignment	Assignment = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Assignment to cover all work done in term 1

Term 2

WEEK	TOPIC	CONTENT
4hrs	**Materials:**	**Properties and uses:** Concrete Sand Aggregate Water Screed Mortar Practical mixing of materials by learners.
8 hrs	**Bricks.**	**Types and identification** **Manufacturing of bricks (process)** Clay bricks Face bricks Semi-face bricks Stock brick Cement brick Cavity brick Brick laying patterns (bonds) **Purpose** **Types of brick bonds** ➢ Sketches of different types brick bonds. Practical dry packing of brick bonds for PAT marks.
	Revision and examination	Assimilation: dry packing of the different types of brick bonds June Exam

Term 3

WEEK	TOPIC	CONTENT
6hrs	**Foundations.**	**Definition and purpose** Safety on the site: signs and information boards Access control Excavations and removal of the top soil Compaction of soil Sketches of foundations.
2hrs	**Building symbols**	Material General Services Water supply
	Assessment	Test = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Test to cover all work done in term 3

Term 4

WEEK	TOPIC	CONTENT
8 hrs	**Structures**	Purpose of structures Types of structures Forces acting upon structures (Sketches) Structural failures (causes) Roof trusses
	Revision	Class test
	November Examination	

Grade 9 Term 1

WEEK	TOPIC	CONTENT
4hrs	**Health and Safety**	General Safety rules ➢ Unsafe Acts ➢ Unsafe Conditions Use personal protective equipment (PPE) Good housekeeping Workshop layout Demarcated areas, emergency stops, exits and first aid stations Safety signs Fire prevention and protection ➢ Elements of fire ➢ Classification of fires ➢ Causes of fires Types of fire fighting equipment Basic First Aid – response and incident management Practical Skill – ➢ First aid for fractured arm ➢ First aid for shock
8hrs	**Tools and equipment.**	**Purpose:** Spirit level Straight edge Pipe level Line and pins Steel square Steel tape measure Wooden and steel pegs Long jointer Short jointer Pointing trowel Mastic trowel Pipe vice Pipe cutter Hack saw Pipe wrench Plum bob Tenon saw Wooden mallet Mortise chisel **Practical demonstrations of tools.**
12 hours	**Assignment**	**Setting out a square small building.**

		Assignment = 50 Marks :40 % Practical =50 Marks:60% Time: 1 hour Assignment to cover all work done in term 1

Grade 9 Term 2

WEEK	TOPIC	CONTENT
4hrs	**Materials.**	**Concrete and brick work** The use and identification of the following. Quality Mixing ratios Additives to concrete Treatment of concrete
4hrs	**SI unit** **Calculations**	Length Area Cubic Volume Volumes Area Ratio: sand, water, cement
8hrs	**Building symbols**	**Material** **General** **Services** **Water supply**
	Revision and Assessment Practical =50 marks =60% Mid-year Examination =80 marks = 40%	

Grade 9 Term 3

WEEK	TOPIC	CONTENT
8hrs	**Types of soil**	**(Characteristics)** Basic soil groups Granular soil Sandy soil Clay soil **Soil groups** Cohesive Granular Organic **Foundations:** **Types of Foundations** **Sketches** Strip foundations Step foundation Raft foundation
3 hrs	**Laying out of foundations**	3,4,5 method
	Revision and Assessment	Term 3 Test = 50marks =40% Practical Assessment =50 Marks , 60%

Grade 9 Term 4

WEEK	TOPIC	CONTENT
8 hrs	**Structures**	**Forces acting on structures** Pulling force Compression force Bending force Torsion force Shearing force (Definition and sketches) **Strengthening methods** Cross bracing Triangulation (sketches of methods) **Beam and column** **Arches** **Cantilevers** **Frame structure** Wood truss (different members of the truss) **Sketches of different types** **Structural failures** **(reasons)** **Fatigue** **Fracturing** **Bending** **Toppling over**

		Pat: Building a structure to withstand a prescribed force
		Class test **Exam End of year**

SECTION 4

ASSESSMENT

4.1 INTRODUCTION

Assessment is a continuous planned process of identifying, gathering and interpreting information about the performance of learners, using various forms of assessment. It involves four steps: generating and collecting evidence of achievement; evaluating this evidence; recording the findings; and using this information to understand and thereby assist the learner's development in order to improve the process of learning and teaching.

Assessment involves activities that are undertaken throughout the year. In Grades 10 – 12 assessment should be both informal (Assessment for Learning) and formal (Assessment of Learning). In both cases regular feedback should be provided to learners to enhance the learning experience.

Evidence of all assessments including tests, simulations and tasks should be placed in the learner's script. It is imperative that all items are marked clearly. Items that are loose should be pasted into the script to become a permanent part of a learner's record.

All items in the learner script must contain the following references:

- Date
- Topic
- Homework assignments including a textbook page and exercise reference
- Evidence of scrutiny and interaction from the teacher in red pen
- All teacher actions/interventions in the script should be dated
- Learners are required to mark all self-assessments in pencil and all corrections must be shown in pencil.

As the script is a formal assessment document, the learner is required to cover and keep the script neat and clean. The teacher is required to provide guidance in this respect. Apart from the learner script, no additional file or portfolio is required.

4.2 INFORMAL OR DAILY ASSESSMENT (ASSESSMENT FOR LEARNING)

Assessment for learning has the purpose of continuously collecting information on learners'

achievements that can be used to improve their learning.

Informal assessment is a daily monitoring of learners' progress. This is done through observations, discussions, practical demonstrations, learner-teacher conferences, informal classroom interactions, etc. Informal assessment may be as simple as stopping during the lesson to observe learners or to discuss with learners how learning is progressing. Informal assessment should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from learning activities taking place in the classroom. Learners or teachers can mark these assessment tasks.

Self-assessment and **peer assessment** actively involve learners in assessment. This is important as it allows learners to learn from and reflect on their own performance. The results of the informal daily assessment tasks are not formally recorded unless the teacher wishes to do so. In such instances, a simple checklist may be used to record this assessment. However, teachers may use the learners' performance in these assessment tasks to provide verbal or written feedback to learners, the school management team and parents. This is particularly important if barriers to learning or poor levels of participation are encountered. The results of daily assessment tasks **are not taken** into account for promotion and certification purposes.

4.1 FORMAL ASSESSMENT (ASSESSMENT OF LEARNING)

4.1.1 Formal assessment requirements

All assessment tasks that make up a formal programme of assessment for the year are regarded as formal assessment. Formal assessment tasks are marked and formally recorded by the teacher for progression and certification purposes. All formal assessment tasks are subject to moderation for the purpose of quality assurance and to ensure that proper standards are maintained.

Formal assessment provides teachers with a systematic way of evaluating how well learners are progressing in a grade and in a particular subject. Examples of formal assessments include projects, oral presentations, demonstrations, performances, tests, examinations, practical tasks, etc. Formal assessment tasks form part of a year-long formal Programme of Assessment in each grade and subject.

Formal assessment tasks form part of a year-long formal Programme of Assessment in each

grade and subject, are school-based and are weighted as follows for the different grades:

Grades	Formal School Based Assessments	End-of-year Examinations
R -3	100%	-
4 - 6	75%	25%
7 – 9: Academic stream	40%	External examination 60%
8: Occupational/Vocational stream	60%	Internal Examination 40%
9: Occupational/Vocational stream		External Examination 40%
10 and 11	25% including a mid-year examination	External examination: 75%
12	25% including mid-year and trial examinations	External examination: 75%

The cognitive demands in assessment should be appropriate for the age and developmental level of the learners in the grade. Assessment in Civil Technology must cater for a range of cognitive levels and abilities of learners. The assessment tasks should be carefully designed to cover the content of the subject as well as the range of skills and the cognitive levels that have been identified in the specific aims. The design of assessments should therefore ensure that a full range of content and skills are assessed within each Grade in the Phase. The specific aims, topics, content and range of skills in the subject should be used to inform the planning and development of assessments.

Formal assessments must cater for a range of cognitive levels and abilities of learners, as shown below:

Cognitive Levels	Percentage of task
Low Order	50%
Medium Order	30%
High Order	20%

	Formal School-Based Assessments			**Final End-of-Year Assessments**
	Term 1	**Term 2**	**Term 3**	**Term 4**
Grade 8	Assignment (theory) 40%	June Examination 40%	Test 40%	Examination 100%
	Practical Task 60%	Practical Task 60%	Practical Task 60%	
Term Report	100%	100%	100%	
End of Year	School Based Assessment (SBA) = 60%			Examination = 40%
Promotion /Progression	SBA + Year End (Internal) Examination = Promotion 60% + 40% = 100%			

4.4 Programme of Assessment in Grades 8 and 9

Table below compilation of the school-based assessment in grade 8:

Grade 8			
Description	**Time Frame**	**Weighting of Final Mark**	**Mark Allocation**
Assignment	Term 1	4%	50
Practical		8%	50
June Examination		8%	80

Practical	Term 2	8%	50
Test	Term 3	4%	50
Practical		8%	50
Internal Examination	Term 4	60%	120

	Formal School-Based Assessments			Final End-of-Year Assessments
	Term 1	**Term 2**	**Term 3**	**Term 4**
Grade 9	Assignment (theory) 60%	June Examinations 60%	Test 60%	External Examinations 100%
	Practical Task 40%	Practical Task 40%	Practical Task 40%	
Term Report	100%	100%	100%	
End of Year	School Based Assessment (SBA) = 60%			External Examinations = 40%
Promotion /Progression	SBA + External Examinations = Promotion/ Progression 60% + 40% = 100%			

Table below compilation of the school-based assessment in grade 9:

Grade 9			
Description	**Time Frame**	**Weighting of Final Mark**	**Mark Allocation**

Assignment	Term 1	**4%**	**50**
Practical		**8%**	**50**
June Examination	Term 2	**8%**	**80**
Practical		**8%**	**50**
Test	Term 3	4%	50
Practical		8%	50
External Examination	Term 4	60%	120

Assignment

An assignment is a short task of 1 hour and includes activities such as translation activities, analysis and interpretations of data, Research, Case study, Calculations and drawings and justifying of conclusions. It could further include an activity that the learners do that simulates a Civil Technology activity or action. This could include the building of models, computer simulations, planning documents, data gathered from experiments, etc. Those are based on a specific technological activity. It should cover all term1 with a mark allocation of 50 marks. The forms of assessment used should be age and developmental level appropriate. The design of these tasks should cover the content and context of the subject and include a variety of tasks designed to achieve the objectives of the subject.

Test

A test for formal Assessment should not comprise of a series of small tests be made up of several smaller tests. A test should cover term 1 content and should be set for 60 minutes with a mark allocation of 50 marks (Allocate1mark per fact). The test must cater for a range of cognitive levels. The design of the task should cover the content and context

Examination

Each examination must cater for a range of cognitive levels. For Grades 8 and 9, the 1-hour Mid-year (June) examination in Civil Technology comprises (80 marks). The midyear examination should cover term 1 and term 2 content. For Grades 8 and 9, the 1 hour 30 minutes' final examination in Civil Technology comprises (120 marks). The final examination should

cover all term 1to term 4 content in Grade 8 and 9. The assignment, term3 test and the mid-year examination and final examination question papers are set by the teacher. The question papers must be moderated by the head of department at the school and approved by the district curriculum advisors / facilitator. This is done to ensure that the prescribed weightings are adhered to by the teacher. The end of the year examination for grade 9 question paper will bet externally set. In the Grade 9 examination **only Grade 9 content** will be assessed. However, prior knowledge from Grade8 may be necessary to interpret and answer some of the questions.

4.4.2 Test weighting in Civil Technology Civil Services

Term 3 test (50 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	**Marks**	**Percentage**	**Marks**
Section A (Generic)				
Health and safety	12%	6	12%	6
Graphics	20%	10	20%	10
Tools	10%	5	10%	5
Materials	10%	5	10%	5
Quantities	8%	4	8%	4
Joining	20%	10	20%	10
Hot water	20%	10	20%	10
Total		50		50

4.4.3 Test weighting in Civil Technology Woodworking

Term 3 test (50 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	**Marks**	**Percentage**	**Marks**
Section A (Generic)				

Health and safety	12%	6	12%	6
Graphics	20%	10	20%	10
Tools	10%	5	10%	5
Materials	10%	5	10%	5
Quantities	8%	4	8%	4
Joining	14%	7	14%	7
Casement	14%	7	14%	7
Doors	12%	6	12%	6
Total		50		50

4.4.4 Test weighting in Civil Technology Construction

Term 3 test (50 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	**Marks**	**Percentage**	**Marks**
Section A (Generic)				
Health and safety	12%	6	12%	6
Tools	14%	7	14%	7
Materials	14%	7	14%	7
Bricks	20%	10	20%	10
Foundations	10%	5	10%	5
Structures	30%	15	30%	15
Total		50		50

4.4.2 Exam weighting in Civil Technology Civil Services

June Examination (80 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	**Marks**	**Percentage**	**Marks**

Section A (Generic)				
Health and safety	13.75%	11	13.75%	11
Graphics	18.75%	15	18.75%	15
Tools	11.25%	9	11.25%	9
Materials	11.25%	9	11.25%	9
Quantities	7.5%	6	7.5%	6
Joining	18.75%	15	18.75%	15
Hot water	18.75%	15	18.75%	15
Total		80		80

4.4.3 Exam weighting in Civil Technology Woodworking

June Examination (80 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	Marks	Percentage	Marks
Section A (Generic)				
Health and safety	13.75%	11	13.75%	11
Graphics	18.75%	15	18.75%	15
Tools	11.25%	9	11.25%	9
Materials	11.25%	9	11.25%	9
Quantities	7.5%	6	7.5%	6
Joining	13.75%	11	13.75%	11
Casement	13.75%	11	13.75%	11
Door	10%	8	10%	8
Total		80		80

4.4.4 Exam weighting in Civil Technology Construction

June Examination (80 Marks)

Note: A variation of +/- 3marks is allowed

Topic	Grade 8		Grade 9	
	Percentage	Marks	Percentage	Marks

Section A (Generic)				
Health and safety	18.75%	15	18.75%	15
Tools	25%	20	25%	20
Materials	15%	12	15%	12
Bricks	15%	12	15%	12
Foundations	11.25%	9	11.25%	9
Structures	17.5%	14	17.5%	14
Total		80		80