basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

2023/24 ANNUAL TEACHING PLANS: CONSTRUCTION: GRADE 11 (TERM 1)

TERM 1	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	
CAPS TOPICS	**OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993 (OHS)**	**MATERIALS (GENERIC)**	**MATERIALS (GENERIC)**	**MATERIALS (SPECIFIC)**	**EQUIPMENT AND TOOLS (GENERIC)**	**EQUIPMENT AND TOOLS (GENERIC)**	**EQUIPMENT AND TOOLS (SUBJECT SPECIFIC)**	**GRAPHICS AS MEANS OF COMMUNICATION (GENERIC)**	**GRAPHICS AS MEANS OF COMMUNICATION (GENERIC)**	**COMPLETION OF ASSIGNMENT/1ST PHASE OF PAT**	
TOPICS/CONCEPTS, SKILLS AND VALUES	**Application of the OHS Act pertaining to:** **Personal safety:** • Clothing • Head protection • Eye and ear protection • Footwear **General safety:** • Hand tools • Power tools • Small plant equipment • Construction methods in the workplace **Safety and health aspects associated with storage of materials:** • On site • In workshops • Hazardous materials in the workplace e.g., solids, liquids and gasses **HIV/Aids: preventative measures** **Awareness of substance abuse:** • Drugs • Alcohol	**Application and uses of the following:** • Concrete • Screed • Mortar • Coarse aggregates • Fine aggregates • Cement • Lime • Water **Timber: Hardwood, softwood and board products:** • Saligna • Meranti • SA Pine • Shutter board • Plywood • Block board • Tempered and standard Masonite (hardboard) **Bricks and blocks:** • Clay and cement **Metal:** **Ferrous metals:** • Grey cast iron • Ductile cast iron • Wrought iron • Malleable iron • Low carbon steel • Stainless steel **Non-ferrous metals:** • Aluminium • Bronze • Copper • Lead • Tin • Zinc **Alloys:** • Brass • Bronze	**Glass:** **Properties and uses of:** • Clear sheet glass • Translucent glass • Safety glass **Synthetic materials:** • Thermoplastics • Thermosetting plastics • Polythene • Polypropylene • Polyvinyl chloride **Classification according to use and quality and sketches of:** **Clay bricks:** • Solid • Keyed • Cellular • Perforated **Clay blocks:** • Hollow **Concrete bricks:** • Solid • Cellular • Perforated **Concrete blocks:** • Hollow • Solid • Paving bricks **Sketches and uses of the following:** • Queen closer • King closer • Bull nose bricks (external and internal return) **Materials in built environment:** • Properties of bricks • Manufacturing process of bricks • Manufacturing process of cement • Definition of medium strength concrete (25 MPa) • Compo mortar • Properties of steel (ferrous and non-ferrous metals)	**Bricks and blocks:** • Clay and concrete **Ferrous metals:** • Grey cast iron • Ductile cast iron • Wrought iron • Malleable iron • Low carbon steel • Stainless steel **Basic properties of materials and ingredients of:** **Non-ferrous metals:** • Aluminium • Bronze • Copper • Lead • Zinc **Plastics:** • Thermoplastics • Thermosetting plastics • Polythene • Polypropylene • Polyvinyl chloride **Adhesives:** • PVC adhesives • Silicone • Mastic sealants **Differentiation between the following types of concrete:** • Mass concrete • Reinforced concrete • Pre-stressed concrete	**Identification, proper use and care of the following basic site equipment:** • Round shovel • Wheelbarrow • Square shovel • Spade • Pick • Dumpy level **Hand tools:** **Brick cutting tools:** • Comb hammer • Club hammer • Cold chisel • Bolster • Brick hammer **Plastering tools:** • Float • Plastering trowel • Hand hawk • Straight edge • Block brush • Corner trowels • Nose trowels • Spirit level **Woodworking tools:** • Roof square • Rip saw • Cross cut saw • Claw hammer • Crowbar/Claw bar • Mitre try square • Combination square • Sliding bevel • Cutting gauge • Smooth, jack and trying plane • Wood rasp • Cross pein hammer • Screwdrivers (flat and Phillips blades)	**Plumbing tools:** • Universal pliers • Water pump pliers • Soldering iron • Basin wrench **Power tools:** • Electric drill • Bench grinder • Power screwdriver • Angle grinder • Portable circular saw **Construction machinery:** • Generator (electricity supply) • Concrete mixer • Plate compactor • Rammer	**Identification of parts, accessories and uses of the following construction machines:** • Portable concrete vibrator • Concrete mixer • Power float **Identification and use of the following equipment:** • Depended scaffolding • In-depended scaffolding • Builders' trestle • Tower scaffolding • Putlog scaffold • Mobile scaffold	**Make advanced drawings by applying various scales:** • Instrument drawings (related to building industry) • Orthographic projection with sections • Different elevations of a building • Vertical sections indicating labelling and measurements in accordance with the SANS for building drawings • Isometric views applicable to construction	**Freehand sketches relevant to the super structure of a building** **Basic computer aided drawings** **Interpretation of drawings:** • Site plan, floor plan and elevation of a basic single-storey dwelling • Basic drawing symbols relating to the built environment in accordance with the SANS for building drawings	**FIRST TERM** **COMPLETION OF ASSIGNMENT AND FIRST PHASE OF THE PAT**	***School holiday***

TERM 1		WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	
REQUISITE PRE-KNOWLEDGE		Requirements of the OHS Act pertaining to: Personal safety, general safety, safety and health aspects associated with storage of materials, HIV/Aids and awareness of substance abuse	Basic properties of materials and ingredients of: Concrete, screed, mortar, timber, bricks, blocks, metals, adhesives and synthetic materials	Hidden knowledge as set out in the following: Glass, synthetic materials, classification according to use and quality and sketches of clay bricks, concrete bricks, concrete blocks, sketches and uses of the different types of bricks	Hidden knowledge as set out in the following: Grey cast iron, stretchable cast iron, wrought iron, malleable cast iron, mild steel and stainless steel	Basic site equipment and tools Knowledge as in Grade 10 Basic construction machines and different types of scaffolding			Pre-knowledge of arches Drawing skills as in Grade 10 and in the first term			
RESOURCES (OTHER THAN TEXTBOOK) **TO ENHANCE LEARNING**		Practical work can be done to expose learners to the real-life situation YouTube videos, etc Learners can do simulations of First Aid as explained in the textbook		Materials as indicated in the content Basic materials must be shown as sizes are important	Materials as indicated in the content Wall charts, videos on materials, etc. Basic materials must be shown as sizes are important	Equipment and tools as indicated in the content topic Site visit can be arranged to explain practical work	Videos, YouTube, PowerPoint presentations, data projector, interactive whiteboard, etc. Materials as indicated in the content	Equipment and tools as indicated in the content topic Site visit can be arranged to explain practical work	Drawing equipment for learners	Videos, YouTube, PowerPoint presentations, data projector, interactive whiteboard		
ASSESSMENT	**INFORMAL ASSESSMENT:** REMEDIATION	Test learners on content Do practical to link content to real-life situations	Small informal test Worksheet with practical situations	Do practical work to indicate the different materials	Worksheets with equipment and or tools Informal test materials as indicated in the topic		Test drawings – interpretations only		Do informal testing by completing work-sheet Prepare worksheets from given examples in the textbook Do drawings in class informally Demonstrate scaffolding and explain the parts to learners			
	SBA FORMAL ASSESSMENT	Assignment PAT - Phase 1 and part 1 of phase 2 **Learners should be taught and be able to understand and apply principles and concepts of each topic and should not be limited to specific specifications in the CAPS**										

2023/24 ANNUAL TEACHING PLANS: CONSTRUCTION: GRADE 11 (TERM 2)

TERM 2		WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	
CAPS TOPICS		**GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)**	**GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)**	**QUANTITIES (GENERIC)**	**QUANTITIES (SPECIFIC)**	**QUANTITIES (SPECIFIC)**	**JOINING (GENERIC)**	**JOINING (SPECIFIC)**	**Controlled test**			***School holiday***
TOPICS/CONCEPTS, SKILLS AND VALUES		**Scale drawings of the following:** • Semi-circular arch • Segmental rough arch • Gauged segmental arch	**Freehand sketches of the following:** • Wooden single-door frame • Wooden arched door frame • Floor plan of a house with 3 bedrooms, a sitting room, a kitchen, a toilet and a bathroom	**Calculate quantities of materials for a single- room building up to wall plate level using dimension paper:** • Bricks • Concrete • Skirting • Quarter round	**Calculate quantities of materials** **Calculate the following materials required for a one-room building with a door and a window, excluding the roof** **Use dimension paper to do the calculation:** • The number of bricks required • The square metres of plaster required for the internal walls • Length of lintel required • Floor covering in square metres	**Calculate quantities of materials** **Calculate the following materials required for a one-room building with a door and a window, excluding the roof** **Use dimension paper to do the calculation:** • Length of lintel required • Floor covering in square metres	**Properties, use precautions and applications of the following:** • Contact glue • PVC adhesives • Silicone • PVA wood glue • Epoxy • Mastic sealant	**Joining bricks to:** • Steel doors and windows • Aluminium doors and windows • Wooden doors and windows **Cavity walls:** • Different types, materials and spacing of ties				
REQUISITE PRE-KNOWLEDGE		Pre-knowledge of arches Drawing skills as in Grade 10 and in the first term		Bricks and blocks Mathematical skills Volumes of concrete Length and square meters		Prior knowledge on materials Adhesives materials	Identify and explain the uses of joining materials like contact glue, PVC adhesives, silicone, PVA wood glue, epoxy and mastic sealant etc.	Identify and explain the joining of bricks to steel/aluminium/wooden doors and windows Cavity walls				
RESOURCES (OTHER THAN TEXTBOOK) **TO ENHANCE LEARNING**		Drawing equipment Equipment and materials needed for setting out Shuttering boards for trenches		Materials as needed in the workshop Calculation of quantities for a simple structure up to floor level Volumes, areas, linear measurements Calculation of area of foundation, volume of sand, volume of cement, volume of stones, volume of water and quantities for a small building up to floor level								
ASSESSMENT	**INFORMAL ASSESSMENT:** REMEDIATION	Make use of materials and test learner's ability to identify and explain the use of the materials Practical work on materials can be done		Informal drawings can be done Practical experience of dry packing a cavity wall	Informal testing by means of practical lessons Self-experiencing of setting out	Informal testing by means of practical lessons Self-experiencing of setting out	Testing – worksheets, informal test, etc.	Testing – worksheets, informal test, etc.				
	SBA **FORMAL ASSESSMENT**	Controlled test PAT (part 2 of phase 2 to be in progress) **Learners should be taught and be able to understand and apply principles and concepts of each topic and should not be limited to specific specifications in the CAPS**										

2023/24 ANNUAL TEACHING PLANS: CONSTRUCTION: GRADE 11 (TERM 3)

TERM 3	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	
CAPS TOPICS	**EXCAVATIONS (SPECIFIC)**	**EXCAVATIONS (SPECIFIC)**	**FOUNDATIONS (SPECIFIC)**	**FOUNDATIONS (SPECIFIC)**	**CONCRETE (Specific)**	**FORMWORK (SPECIFIC)**	**FORMWORK (SPECIFIC)**	**CONSTRUCTION STEEL (SPECIFIC)**	**CONSTRUCTION (CAVITY WALL)**	**COMPLETION OF CONTROLLED TEST/PAT**	
TOPICS /CONCEPTS, SKILLS AND VALUES	**Describe and discuss with the aid of sketches:** • Horizontal checks of foundation excavations with the aid of instruments • The purpose of datum peg **Keeping excavations free from water using the following methods:** • Pumping out water • Creating drains • Baling	**Describe and discuss by means of freehand sketches methods of keeping excavations from collapsing in the following types of soil:** • Loose soil • Dry soil • Firm soil • Loose, wet soil	**Description, sketches and location of:** • Pad foundations • Wide strip foundations • Short bored (auger) pile foundations	**Description, sketches and location of:** • Short bored (auger) pile foundations	**Reinforcement for the following structures:** • Square column • Round column • L-shaped columns **Reinforcement for a beam** **Reinforcement for a concrete floor**	Definition of formwork Purpose of formwork Form oils and emulsions **Materials used for formwork taking into consideration the following:** • The treatment before and after casting concrete • Properties of good formwork	**Formwork: Materials used and the identification of different parts of formwork used for:** • Columns • Arches • Stairs • Methods of erecting of formwork • Constructional details **Lintels:** • Drawing of formwork and methods of erecting and supporting • Purpose • Use • Types • Sizes of pre-stressed lintels	**Identification, use, sketches and properties of the following steel sections:** • I-beam • H- beam • U- channel • Lip channel • Angle iron	**The purpose, advantages and disadvantages of cavity walls**		***School holiday***
REQUISITE PRE-KNOWLEDGE	Pre-knowledge on excavations Drawing and sketching skills Types of soil and soil conditions, timbering, reasons to compact soil		Knowledge on foundations as well as drawing skills		Knowledge on reinforcement of concrete as well as drawing skills	Materials of concrete Reinforcement materials Knowledge on columns	Wood materials Materials of concrete Reinforcement materials Knowledge on columns	Pre-knowledge of steel sections	Pre-knowledge on cavity walls Drawing and sketching skills		
RESOURCES (OTHER THAN TEXTBOOK) **TO ENHANCE LEARNING**	YouTube, wall charts, excavations material	YouTube, wall charts, equipment, e.g., drawings equipment, set squares, etc.	YouTube, wall charts on foundations, etc.			YouTube, wall charts, work sheets, etc.	YouTube, wall charts, materials for formwork	Materials, wall charts, YouTube, etc.	Drawing equipment		
ASSESSMENT **INFORMAL ASSESSMENT:** REMEDIATION	The start of the term – question and answers	Worksheets with excavations from collapsing only	Drawings and sketches can be made Emphasis on sketching		Drawings and sketches can be made	Informal tests and peer marking Open book tests			The start of the term – question and answers		
SBA FORMAL ASSESSMENT	Controlled test PAT (part 2 of phase 2 to be in progress) **Learners should be taught and be able to understand and apply principles and concepts of each topic and should not be limited to specific specifications in the CAPS**										

2023/24 ANNUAL TEACHING PLANS: CONSTRUCTION: GRADE 11 (TERM 4)

TERM 4	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	
CAPS TOPICS	**CONSTRUCTION (CAVITY WALL)**	**CONSTRUCTION (CAVITY WALL)**	**CONSTRUCTION (BRICKWORK)**	**CONSTRUCTION (BRICKWORK)**	**STAIRCASE (SPECIFIC)**	**ROOF COVERING (SPECIFIC)**	**CONSOLIDATION, FINAL EXAM AND ASSESSMENT OF PAT**				***School holiday***
TOPICS/CONCEPTS, SKILLS AND VALUES	**Scale drawings of the following:** • Vertical section through a cavity wall	**Scale drawings of the following:** • Different methods of finishing off openings of tops of cavity walls	**Front elevation and alternate plan courses of a wall built in English bond. Scale drawings of alternate plan courses of corners (quoin), T-junctions and cross junctions of walls built in English bond**	**Waterproofing:** **Position and method of installing DPC in the following areas in a building:** • Windows • Doors • Walls	**Concrete staircase:** • Terminology for staircases • General principles of staircase design **Roof covering:** • Purpose of roof covering • Material used for roof covering	**Characteristics of IBR and corrugated iron sheeting under the following heading:** • Width • Length available • Weight • Insulation • Wind pressure • Corrosion • Cost **Characteristics of concrete roof tiles under the following heading:** • Wind pressure • Maintenance • Joining each other • Sizes • Weight • Pitch • Cost **Characteristics of concrete roof tiles under the following heading:** **Roof underlay:** • Materials used • Purpose • Properties					
REQUISITE PRE-KNOWLEDGE	Pre-knowledge on cavity walls Drawing and sketching skills	Pre-knowledge on cavity walls Drawing and sketching skills	Pre-knowledge of the front elevation and alternate plan courses, T-junctions and cross junctions of a wall built in English bond Drawing and sketching skills	Pre-knowledge on waterproofing Drawing and sketching skills	Pre-knowledge on staircases Drawing and sketching skills	Pre-knowledge on roof covering Drawing and sketching skills					
RESOURCES (OTHER THAN TEXTBOOK) **TO ENHANCE LEARNING**	Drawing equipment	Drawing equipment	Drawing equipment	Drawing equipment	YouTube, wall charts on foundations, etc.	YouTube, wall charts Materials for roof covering					
ASSESSMENT **INFORMAL ASSESSMENT:** REMEDIATION	The start of the term – question and answers	The start of the term – question and answers	Worksheets (construction brickwork)	Worksheets (construction brickwork)	Worksheets (staircases) Drawings and sketches can be made	Worksheets (roof covering) Drawings and sketches can be made					
SBA (FORMAL)	**Final examination** **Assessment of the PAT** **Learners should be taught and be able to understand and apply principles and concepts of each topic and should not be limited to specific specifications in the CAPS**										