basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

2021 Post – Covid: National Revised ATP: Grade 12 – Term 1: Construction

TERM 1 (45 days)	Week 1 (3 days)	Week 2 (5 days)	Week 3 (5 days)	Week 4 (5 days)	Week5 (5 days)	Week 6 (5 days)	Week 7 (5 days)	Week 8 (5 days)	Week 9 (4 days)	Week 10 (3 days)	
CAPS Topics	**INTRODUCTION OCCUPATIONAL HEALTH AND SAFETY ACT 85 of 1993 (OHS) (Generic)**	**INTRODUCTION OCCUPATIONAL HEALTH AND SAFETY ACT 85 of 1993 (OHS) AND MATERIALS (Generic)**	**MATERIALS SPECIFIC**	**Materials: (SPECIFIC)**	**EQUIPMENT & TOOLS (GENERIC SPECIFIC)**	**GRAPHICS AS MEANS OF COMMUNICATION. (GENERIC)**	**"GRAPHIC COMMUNNICAT. GENERIC" SPECIFIC**	**QUANTITIES SPECIFIC**	**QUANTITIES SPECIFIC**	COMPLETION OF **ASSIGNMENT/PAT**	
Topics /Concepts, Skills and Values	Application of the OHS Act pertaining to general health and safety in the workplace : • Scaffolding • Handling of material • Floors and stairs with open sides • Builders hoist • Ladders	Application of the OHS Act pertaining to general health and safety in the workplace : • Builders hoist • Ladders Preservation and sustainability of materials: • Painting • Curing • Electroplating • Powder coating • Galvanising Ready mix concrete; Testing of concrete; Curing; Metals - Basic properties of ferrous & non-ferrous metals; Alloys; Glass; Plastics; Cladding	**Ready mix concrete:** • Definition of high strength concrete (30 MPa) • Advantages • Disadvantages • Methods of pumping concrete to higher levels in a building **Testing of concrete:** Equipment, purpose used, procedure and outcomes: • Slump test • Cube test **Curing:** • Different materials used for curing • Application of the different materials **Introduction to Phase 1 and Phase 2 of PAT.**	**Metals:** Basic properties of ferrous metals such as: • Cast iron • Steel • Low/medium/high carbon steel • Galvanised sheet metal Basic properties of the following non-ferrous metals: • Aluminium • Lead • Zinc • Copper • Tin Alloys (Brass) Glasses (uses of glass in the built environment) **Plastics:** Basic properties and uses of the following plastics: • Perspex • PVC (polyvinylchloride) • Polystyrene • Silicon **Cladding:** • Purpose • Materials used • Methods of fixing	Identification, proper use and care of the following: **Specialised tools:** • Dumpy level • Laser level • Multi detector Safe handling and care of the following construction machinery • Portable concrete vibrator • Concrete mixer • Plate compactor • Tamping rammer • Power trowel float	Interpretation of advanced drawings: • Site plan, floor plan and elevations of multi-storey buildings. • Basic drawing symbols relating to the built environment in accordance with the SANS for building drawings	Detailed scale drawings of the following: • Open eaves • Closed eaves • Alternate plan courses of a one-and-a-half brick pier built in stretcher and English bond • Alternate plan courses of a one-and-a-half brick pier attached to a one brick wall in stretcher and English bond • Horizontal sections through brickwork showing how timber window and door frames are built into walls • Horizontal sections through brickwork showing how steel window and door frames are built into walls	Calculation of the quantity of all materials required for a small building with two rooms: • Concrete for foundations • Hardcore • Blinding layer • DPC • DPM • Reinforcement for floor • Concrete for floor • Screed	Calculation of the quantity of all materials required for a small building with two rooms: • Skirting • Walls (deduct for openings) • Doors • Windows • Floor covering • Wall plate • Roof material including covering	Complete quantities in the first two days of this particular week. **FIRST TERM TEST** COMPLETION OF FIRST PHASE OF PAT	***01-12 April 2021 School holiday***
Requisite pre-knowledge	Learners to visit a site where the following is used: Scaffolding, Erecting of scaffolding, Dismantling of scaffolding, Ladders , hoist & chute	The procedure, preservation and sustainability of the following materials: Painting - Curing Electroplating - Powder coating	Application and uses. Materials in built environment. Adhesives. Differentiation between types of concrete.	Materials in built environment. Differentiation between types of metals. Plastic and glass.	Specialised tools and basic machinery that can be used on site.	Freehand sketches relevant to the super structure of a building. Interpretation of drawings Scales	Different brick bonds. Plan courses. Freehand sketches relevant to the super structure of a building. Scales	Calculate materials required for a one room building with a door and a window excluding the roof.	Calculate materials required for a one room building with a door and a window excluding the roof.		
Resources (other than textbook) **to enhance learning**	Practical work can be done to expose learners to the real life situation. YouTube, videos, etc		Materials as indicated in the content	Equipment and materials as indicated in the content. Machinery especially special tools. Ensure that the dumpy and laser level, as well as the multi detector are practically demonstrated.		Videos, YouTube, power point presentations, data projector, interactive whiteboard, etc. Drawing equipment for learners.		Calculators, tape measure, workbook with quantity layout, etc Site visit can be arrange to explain practical work. Basic materials must be shown as sizes are important.			

Assessment	**Informal Assessment:** Remediation	Do practicals by erecting a scaffold. Correct placement of a ladder against a wall. testing the slump test.	Worksheets with the procedure, preservation and sustainability of materials Test on ferrous and non-ferrous metals.	Do practical's: Testing of concrete - Slump test, Cube test.	Worksheets with basic properties of ferrous and non-ferrous metals. Taking care of tools and machinery.	Test drawings – interpretations only	Do drawings in class informally.	Do informal testing by completing work sheets on quantities. Prepare worksheets from given examples in the textbook.		
	SBA Formal Assessment	**Assignment (Abridged Section 4 of CAPS)** **Phase 1 of PAT - Simulation** **Phase 2 of PAT – Planning stages.**								

2021 Post – Covid: National Revised ATP: Grade 12 – **Term 2: Construction**

TERM 2 (54 days)	**Week 1** (4 days)	**Week 2** (4 days)	**Week 3** (3 days)	**Week 4** (5 days)	**Week 5** (5 days)	**Week 6** (5 days)	**Week 7** (5 days)	**Week 8** (5 days)	**Week 9** (5 days)	**Week 10** (4 days)	**Week11** (5 days)	**26June-12 July** School Holiday
CAPS Topics	**JOINING (GENERIC**	**JOINING (SPECIFIC)**	**BRICKWORK (SPECIFIC)**	**BRICKWORK (SPECIFIC)**	**EXCAVATIONS (SPECIFIC)**	**EXCAVATIONS (SPECIFIC)**	**FOUNDATIONS (SPECIFIC) CONCRETE FLOORS (SPECIFIC)**	**FOUNDATIONS (SPECIFIC) CONCRETE FLOORS (SPECIFIC)**	**REVISION/ENRICHMENT**	**ASSIGNMENT**	**PAT PHASE 2 COMPLETION**	
Topics /Concepts, Skills and Values	Identify and explain the use of • Bolts and nuts • Rawl bolts • Plastic plugs • Rawl plugs	Methods of joining the following items: • Joining roof trusses to brickwork • Wall plate to wall • Concrete base to steel sections	Cavity walls: • Scale drawings of cavity walls showing constructional details	Paving: • Ground preparation • Paving methods • Vertical section through paving showing bedding, damp proof membrane (DPM) where applicable and paving bricks • Sketches of basket weave pattern and herring bone pattern Beam filling: • Purpose • Advantages and disadvantages • Construction detail	Safety factors and regulations to be considered: • Before and after excavations are complete • Excavating to obtain a level site • Excavating to obtain foundation trenches • When working in deep trenches Scale drawings of keeping excavations from collapsing on firm ground indicating the following: • 152 x 50 mm walling boards, • 152 x 38 poling boards, • 100 x 100 mm struts	Scale drawings of shuttering for shallow trenches indicating the following: • 152 x 50 mm walling boards • 152 x 38 poling boards • 100 x 100 mm struts	Pile foundations: • Reasons for using pile foundations • Advantages of using pile foundations Description and methods of installing: • Precast concrete piles • Steel tube caisson piles • Driven in-situ piles Longitudinal and cross-sectional drawings through a pile and ground beam	Rib and block floors: • Preparations of walls to receive ribs • Factors to be considered before, during and after installations • Safety factors to be considered before, during and after installations. • Materials used for rib and block floors • Installation procedure • Advantages and disadvantages of using rib and block floors • Sketches through a rib and block floor				
Requisite pre-knowledge	Pre knowledge of joining materials.	Methods and identification of joining materials	Bricks and blocks Materials for a cavity wall. Different walls and bonds.	Bricks and blocks Materials for a cavity wall. Different walls and bonds.	Drawings and safety aspects on site. Scale drawings – how to interpret drawings. Labelling of drawings. Different types of foundations		Pile foundations. Drawings of different pile foundations					
Resources (other than textbook) **to enhance learning**	Materials needed in the workshop - Bolts, Screws, nuts, etc.	Materials needed in the workshop – Bolts, crews, nuts, etc. Examples to demonstrate connection to learners.	Drawing equipment Equipment and materials needed for setting out. Shuttering boards for trenches.				Internet- YouTube. Smartphones	Materials for a rib and block floor. Internet- YouTube. Smartphones				
Assessment **Informal Assessment:** Remediation	Joining of different joining fixtures can be done.		Informal testing by means of practical lessons. Self-experiencing. Dry packing of cavity walls and different paving methods.		Testing – worksheets, informal test, etc Scale drawings of keeping excavations from collapsing on firm ground		Worksheets- identification and uses. Tests. Drawings of a rib and block floor. Labelling a sketch - rib and block floor. Practical work to enhance learning. Dry packing a rib and block floor. (5 layers high)					

	SBA Formal Assessment	Term 2 PAT- An amended PAT will be issued by DBE to be completed by all learners. The legislation governing workplaces in relation to COVID – 19 is the Occupational Health and Safety Act, Act 85 of 1993, as amended, read with the Hazardous Biological Agents Regulations. Section 8 (1) of the Occupational Health and Safety (OHS) Act, Act 85 of 1993,- Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or intensity of exposure to a hazard. Examples of safe work practices for SARS-CoV-2 include. Requiring regular hand washing or using of alcohol-based hand rubs. Learners and teachers should always wash hands when they are visibly soiled and after removing any PPE. Keep safe distances and wear a mask at all times. See the document on the workshop safety measures.	

2021 Post – Covid: National Revised ATP: Grade 12 – **Term 3: Construction**

TERM 3 52 days)	Week 1 (4 days)	Week 2 (5 days)	Week 3 (5 days)	Week 4 (5 days)	Week 5 (4 days)	Week 6 (5 days)	Week 7 (5 days)	Week 8 (5 days)	Week 9 (5 days)	Week 10 (5 days)	Week 11 (3 days)	
CAPS Topics	**REINFORCEMENT IN CONCRETE (SPECIFIC)**	**REINFORCEMENT IN CONCRETE (SPECIFIC)**	**CONSTRUCTION ROOFS (SPECIFIC)**	**CONSTRUCTION ROOFS (SPECIFIC)**	**FORMWORK (SPECIFIC)**	**FORMWORK (SPECIFIC)**	**CONSTRUCTION: BRICKWORK (Specific)**	**Trial Examination** 16 days				**24 Sept – 05 Oct** School Holiday
Topics /Concepts, Skills and Values	Reinforcement in concrete: • Floors • Beams Columns	Materials, identification and requirements that materials used for reinforcing must comply with: See CAPS document. Drawings of reinforcement, min concrete cover, form oils and defects due to shuttering	Scale drawings of the following types of roof trusses: - SA roof truss with maximum span of 10 metres - Lean-to roof - Couple roof o Close couple roof	Scale drawings of the following types of roof trusses: o Collar-tie roof o King post roof Spacing of roof trusses, roof underlays and difference between purlins and battens	Properties of materials used for formwork: Drawing of formwork and methods of erecting and supporting the following: Beams and beams with attached floor slab Drawing of	formwork and methods of erecting and supporting the following: Straight flight of stairs with a landing. And the use of wedges in formwork.	Beam filling: • Constructional details • Purpose • Advantages Arches: • Purpose, constructional details, advantages, disadvantages and support during construction of semi-circular and flat arches, closed and open lagging • Differentiation between rough arches and gauged arches					
Requisite pre-knowledge	Drawing of formwork and methods of erecting and supporting. Lintels. Materials for reinforcements. Pre knowledge on beams, floors and columns	Materials in built environment. Steel Concrete Identification, uses, sketches and properties of steel sections	Roof covering. Characteristics of IBR and corrugated iron sheeting. Characteristics of concrete roof tiles. Roof underlay.		Pre knowledge of materials used for formwork		Pre knowledge of beam filling and arches					
Resources (other than textbook) **to enhance learning**	YouTube, wall charts,	YouTube, wall charts,	YouTube, wall charts,	YouTube, wall charts,	YouTube, wall charts,	YouTube, wall charts,	YouTube, wall charts,					
Assessment **Informal Assessment:** Remediation	The start of the term – question and answers	Worksheets with identification of materials only.	Short tests and peer marking	Short tests and peer marking	Short tests and peer marking	Short tests and peer marking	Short tests and peer marking					
Assessment **SBA Formal Assessment**	Term 3 – Preparatory examination PAT- An amended PAT will be issued by DBE to be completed by all learners. The legislation governing workplaces in relation to COVID – 19 is the Occupational Health and Safety Act, Act 85 of 1993, as amended, read with the Hazardous Biological Agents Regulations. Section 8 (1) of the Occupational Health and Safety (OHS) Act, Act 85 of 1993,- Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or intensity of exposure to a hazard. Examples of safe work practices for SARS-CoV-2 include. Requiring regular hand washing or using of alcohol-based hand rubs. Learners and teachers should always wash hands when they are visibly soiled and after removing any PPE. Keep safe distances and wear a mask at all times. See the document on the workshop safety measures.											

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2021 Post – Covid: National Revised ATP: Grade 12 – **Term 4: Construction**

Term 4 (47 days)		**Week 1** (4 days)	**Week 2** (5 days)	**Week 3** (5 days)	**Week 4** (5 days)	**Week 5** (5 days)	**Week 6** (5 days)	**Week 7** (5 days)	**Week 8** (3 days	**Week 9** (3 days	**Week 10** (3 days	
CAPS Topics		**CONSTRUCTION (BRICKWORK) STAIRCASE (SPECIFIC**	**CONSTRUCTION (BRICKWORK) STAIRCASE (SPECIFIC**	**CONSTRUCTION PLASTER AND SCREED (SPECIFIC)**	**CONSTRUCTION PLASTER AND SCREED (SPECIFIC)**	**CONSTRUCTION PLASTER AND SCREED (SPECIFIC)**	Revision and prepare for examination	CONSOLIDATION,FINAL EXAM AND ASSESSMENT OF PAT NSC Examinations 33 days				**9 Dec– 00 Jan** School Holiday
Topics /Concepts, Skills and Values		Staircase Vertical cross section	Staircase General principals Different profiles	Plaster: • Mix proportions of plaster • Application of plastering • Purpose of skimming of plaster • Admixtures to plaster	Plaster: Alternative plaster finishes to walls: • Smooth finish • Splatter finish • Wavy surface • Bagging finish to walls	Screed: • Mix proportions of screed • Preparation of floors to receive screed • Application of screeds • Purpose of screed • Admixtures to screed						
Requisite pre-knowledge		Pre knowledge of formwork for staircases	Pre knowledge of content for staircases	Pre knowledge of plaster content.	Pre knowledge of plaster finishes	Pre knowledge of screed content						
Resources (other than textbook) **to enhance learning**		Materials, wall charts, YouTube, etc	Materials, wall charts, YouTube, etc	Mixing of plaster	Finishes of plaster	Mixing of screed						
Assessment	**Informal Assessment:** Remediation	Short tests and peer marking.										
	SBA (Formal)	***Preparation for NSC Examination.*** ***PAT TO BE COMPLETED AND ASSESSED***										