

2021 RECOVERY CURRICULUM AND ASSESSMENT PLANS

INFORMATION TECHNOLOGY (IT) GRADE 12

Implementation: January 2021



Presentation Outline



Purpose



Amendments to the Annual Teaching Plan (ATP)



Amendments to School Based Assessment (SBA)



Conclusion



Purpose

- To mediate the amendments of the recovery 2021 Annual Teaching Plan (ATP) including School Based Assessment (SBA) for **Information Technology Grade 12** for implementation in January 2021.
- To ensure that **meaningful teaching proceeds** during 2021 time as per the 2021 school calendar.
- To assist teachers with **guided pacing and sequencing** of curriculum content and assessment.

INFORMATION TECHNOLOGY

National Curriculum Statement (NCS)

*Curriculum and Assessment
Policy Statement*



*Further Education and Training Phase
Grades 10-12*



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Purpose (continued)



To enable teachers to **cover the essential core content /skills** in each grade within the available time.



To assist teachers with **planning** for the different forms of **assessment**.



To ensure learners are **adequately prepared** for the **subsequent year/s** in terms of content, skills, knowledge, attitudes and values

The 3-year Curriculum Recovery Guideline outlines the development of the 3-year recovery ATPs to manage learning losses.

Recovery ATPs as stipulated in Circular S13 of 2020.



Introduction



COVID-19 led to losses in teaching and learning time due to:

- the lockdown period and **phased reopening** of schools,
- Alternating time tabling models and
- the related health and safety **protocols**.

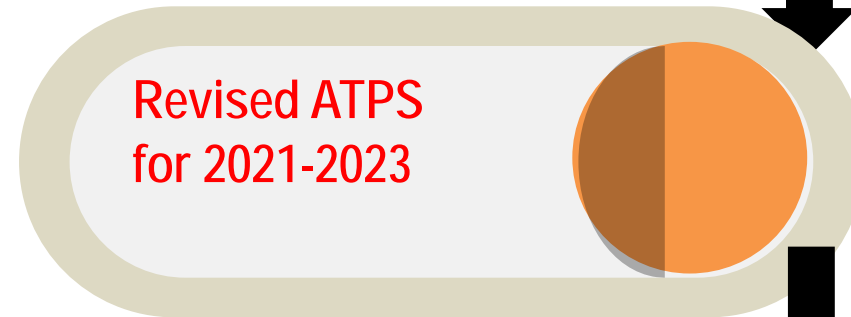
Furthermore, the revision of the school calendar **and** intermittent closure of many schools negatively **impacted** the **ability** of teachers to **implement** the **revised 2020 ATPs** as envisioned.

To mediate the impact and support teachers in managing teaching, assessment and learning within the reduced **time**, the DBE in 2020 implemented:

- **Circular S3** that outlined and guided teachers to conduct **context specific subject trimming**, in consultation with subject advisors.
- **National Assessment Circular 02** and **Circular E 11** to guide school-based assessment in phases and subjects



Vision 2024



- Conceptualisation of a Curriculum Strengthening process that encompasses Competencies required for the Changing World;
- Develop Revised Modernised Curriculum Policy Statements in alignment with amended CAPS Section 4 and 2020 Assessment Circulars;
- Develop an Assessment for Learning pedagogical strategy, and
- Develop Educator Mediation Programmes.

Principles

- 1 Use of the 2020 Curriculum Recovery Framework as the base document
- 2 Learning losses inform the Three Year Recovery Plans for School –based Assessment
- 3 Management of the learning losses and the School Based Recovery Plans
- 4 Create opportunities through adjusted ATPs to strengthen pre-knowledge, consolidation, revision, and deeper learning
- 5 Entrench Assessment for Learning as a Pedagogical Approach to address the learning losses



Principles

6

The 2021 Recovery ATPs maintains the use of current LTSM and resources already available in the system.

7

Content topics removed in 2020 were not automatically returned in the 2021 Recovery ATPs.

8

Fundamental and core topics were retained in the Recovery ATPs

9

To guide and support effective teaching and learning



Underpinning Assumptions



1

ASSUMPTION 1

All learners will return to school from day 1 of the 2021 academic year and norm-times as stipulated in the CAPS will be adhered to for the entire school year;

2

ASSUMPTION 2

Learning losses due to COVID-19 across grades and subjects will vary from school to school, class to class and even within classes.

3

ASSUMPTION 3

Each Teacher will have a record of learning losses and Departmental Heads and Subject Advisors will monitor progress in learning loss recovery;



Underpinning Assumptions



4

ASSUMPTION 4

All schools will develop & implement school-based support programmes for all grades/years with particular focus on all the exit grades/years (3, 6, 9 and 12) throughout the three-year period.

5

ASSUMPTION 5

All Circulars related to the 2020 ATPs including SBA to be withdrawn and revised to align to the 2021 ATPs.

6

ASSUMPTION 6

Schools have systems in place to manage the possibility of a second wave of the pandemic in Q1 and Q3 of the 2021



The Development of the 2021 Recovery ATPs

The Recovery ATPs are aligned to the:

- 2021 School calendar
- Abridged S4 of CAPS
- Curriculum and assessment principles as prescribed in the CAPS policy for **IT**.



Reorganisation of Content Topics

Theory

Content clustered for accelerated teaching and learner-directed learning. Supported by formative assessment through PowerPoint presentations, videos, Q&As, quizzes

Practical

PAT integrated with software engineering



TERM 1 48 days	Week 1: 15 - 17 Jan (3)	Week 2: 20 – 24 Jan	Week 3: 27 – 31 Jan	Week 4: 03 – 07 Feb	Week 5: 10 – 14 Feb	Week 6: 17 – 21 Feb	Week 7: 24 – 28 Feb	Week 8: 02 – 06 Mar	Week 9: 09 – 13 Mar	Week 10: 16 – 20 Mar
CAPS topic	Data and Information Management: Database Management	Database Management Database: Design and Concept	OOP	OOP	System Technologies: Hardware	Networks E-Communication Social Implications	Extended database and programming	Extended database and programming	Software Engineering Principles + PAT	PAT
Concepts, skills and values	Caring for and managing data <ul style="list-style-type: none">Value of dataHow to protect data Hacking through data <ul style="list-style-type: none">Invalid/false dataDBMS Differentiate and lists the roles of people as part of DBMS <ul style="list-style-type: none">DBA, Programmer (roles and responsibilities)	Explain and motivate relational database design <ul style="list-style-type: none">Relational database overview<ul style="list-style-type: none">NormalisationWhere do un-normalized data come from?Design/entities, keys, record organisation Transaction processing Characteristics of a good database design	Develop a simple user-defined class Modifications to a class Object Instantiation Call methods	Distinguish between different types of methods in terms of their use and purpose (constructor, destructor, accessors, mutators and auxiliary)	Mobile technologies Motivate why typical computer system	Networks Setting up a network Sharing concepts Remote access E-Communication Encryption SSL (private and public key) Certificates and security Social Implications Reducing the environmental impact – computer usage Ways to stay informed about computer technology Getting latest updates	Reinforce Gr 11 concept Accessing a relational database through a programming language Set up a connection Executing of various database transactions Use common dataset event handlers and methods	Develop a multi-form GUI Sharing data amongst forms Use algorithms Defensive programming techniques Text based reports Construct more complex algorithms Develop solutions for various problems	Overview and comparison of different methodologies such as cascading, rapid application development (RAD), incremental and agile PAT: Analysis of requirements using an appropriate methodology	PAT: Analysis of requirements using an appropriate methodology
Requisite pre-knowledge	Gr 11: Database design	Gr 10&11: Programming skills and knowledge			Gr 11: Hardware	Gr 11: Networking knowledge	Gr 11: Database design knowledge and skills		Gr 10 & 11: PAT development knowledges and skills	
Resources (Not textbook) to enhance learning	YouTube, Websites, Presentations, Workshop notes									
Informal assess; remediation	1 informal assessment task	1 informal assessment task	2 informal assessment tasks		1 informal assessment tasks	2 informal assessment tasks	2 informal assessment tasks	2 informal assessment tasks		
SBA (Formal Assessment)					PAT	THEORY TEST		PRACTICAL TEST		

TERM 2 39 days	Week 1: 1 – 5 June	Week 2: 8 – 12 June	Week 3: 15 – 19 June (4 days)	Week 4: 22 – 26 June	Week 5: 29 – 03 Jul	Week 6: 06 – 10 Jul	Week 7: 13 – 17 Jul	Week 8: 20 – 24 Jul
CAPS topic	System Technology: Software, and Computer Management Social Implications (8 hours → 4 hours)	2D Arrays	2D Arrays	Extend database and programming	Extend database and programming	Data and Information Management Internet Technologies: Internet and WWW Internet Technologies: Internet Service Technologies Social Implications	Software Engineering + PAT	Software Engineering + PAT
Concepts, skills and values	System Technology: Software (2 hours) <ul style="list-style-type: none">Overview of cloud computing and virtualisation:<ul style="list-style-type: none">Describe cloud computingEffect on hardware needsSaaSVirtualisation of serversArguments for and against System Technology: Computer Management (1 hours) <ul style="list-style-type: none">Factors influencing computer managementRecommended management tasks for general housekeeping and to maintain data integrity and protect the system Social Implications: (1 hour) <ul style="list-style-type: none">Computer criminalsTypes of cyber crimeEffect of cyber crimesComputer crimesSafeguards against computer crimes, threats, and criminals	Arrays as a data structure - Structure - Step through items	Arrays as a data structure - Fill and display: row/column labels; formatting -Basic manipulation	Design and develop a solution incorporating SQL <ul style="list-style-type: none">Select. DistinctInsert, update, deleteWhereOrder byGroup bySpecial operators: Between, In, Like, Is Null, Having	Design and develop a solution incorporating SQL <ul style="list-style-type: none">Creating calculated fieldsFormatting with round, int, etc.Casting a fieldCreating a join query using WhereMathematical operatorsAggregate functions: Sum, Average, Min, Max, CountCommon date functionsString functions (Length, Mid, Left, Right)Simple sub queries	Data and Information Management Data collection -Overview and examples Data warehousing Data mining – description and purpose Location-based data Internet Technologies: Internet and WWW Trends and emerging technologies Online applications and storage Improve searching Internet Technologies: Internet Service Technologies Online applications <ul style="list-style-type: none">Storing dataRunning instructionsFormatting output Social Implications <ul style="list-style-type: none">Explain how computers provide solutions to issues of national and international importanceDescribe the evolution of social networking and the effect of societyList and discuss issues regarding privacy and information sharing	Reinforce software engineering principles PAT – Continue	Reinforce software engineering principles PAT – Continue
Requisite pre-knowledge	Gr 10 & 11: Knowledge Application of all knowledge	Gr 10 & 11: Programming skills and knowledge				Gr 10 & 11: Knowledge Application of all knowledge	Gr 10 & 11: Programming skills and knowledge	
Resources (Not textbook) to enhance learning	YouTube, Websites, Presentations, Workshop notes							
Informal assess; remediation	1 informal assessment tasks (integrating social implications with software and Computer Management).	2 informal assessment tasks	2 informal assessment tasks.	2 informal assessment tasks.	2 informal assessment tasks.	1 informal assessment tasks incorporating social implications.		
SBA (Formal Assessment)		PAT Phase 1			THEORY / PRACTICAL TEST			

TERM 3 37 days	Week 1: 03 – 07 Aug	Week 2: 10 – 14 Aug (3h)	Week 3: 17 – 21 Aug	Week 4: 24 – 28 Aug	02 – 23 Sep	
CAPS topic	PAT	Application Development	Application Development	IT paper 1 examination	TASK 7: TRIAL EXAMINATION	
Concepts, skills and values	PAT – Finalise	Consolidate and reinforce content, concepts and skills Design and develop solutions for a variety of problems that include computational thinking and applying software engineering principles	Consolidate and reinforce content, concepts and skills Design and develop solutions for a variety of problems that include computational thinking and applying software engineering principles	[Other subjects continue normal teaching days]	PAPER 1	PAPER 2
					Marks: 150 – Time: 3 hours Question 1 Basic, general programming skills Question 2 Database Question 3 Object-oriented programming (OOP) Question 4 General problem-solving	Marks: 150–Time: 3 hours Section A: Question 1 <i>Short questions (±20 marks)</i> Section B: Question 2 <i>Systems Technologies (±25 marks)</i> Section C: Question 3 <i>Communications and Network Technologies (±25 marks)</i> Section D: Question 4 <i>Data and Information Management (±25 marks)</i> Section E: Question 5 <i>Solution Development (±25 marks)</i> Section F: Question 6 <i>Integrated Scenario (±30 marks)</i>
Requisite pre-knowledge	Application of all knowledge	Gr 10&11: Programming skills and knowledge	Gr 10&11: Programming skills and knowledge			
Resources	YouTube, Websites, Presentations, Workshop notes				Cognitive levels: Lower order – 30%; Middle order-40%; Higher order-30%	
Informal assess; remediation	PAT	2 informal assessment tasks	2 informal assessment tasks		TRIAL EXAMINATION	
SBA (Formal Assessment)		PAT	PAT			

TERM 4 53 days	Week 1: 28 Sep - 2 Oct (4)	Week 2: 5 – 9 Oct	Week 3: 12 - 16 Oct	Week 4: 19 - 23 Oct	26 October – 09 December	
CAPS topic	Content using Case Studies - All Topics	Content using Case Studies - All Topics	Content using Case Studies - All Topics	Content using Case Studies - All Topics IT Practical Exam	FINAL NSC EXAMINATION	

Overview of Assessment Changes

School-based Assessment (SBA)

No June Examination



Revised Programme of Assessment

Terms	Term 1		Term 2	Term 3		Term 4	
Tasks	Task 1	Task 2	Task 3	Task 4		Task 5	
Assessment	Theory Test	Practical Test	Alternative Task/Test	Trial Practical Exam	Trial Theory Exam	Final Practical Exam	Final Theory Exam
Promotion weighting	Convert to 25%					Convert to 25%	Convert to 25%
Total Marks	Min: 50	Min: 50	Min: 50	150	150	150	150
Time Allocation	Min: 45-60 min	Min: 45-60 min	Min: 45-60 min	3 hours	3 hours	3 hours	3 hours
	Promotion weighting of PAT: 25%						



Examination Structure

- As per IT Exam guidelines

Practical Assessment Task (PAT)

- Not amended, dates just moved forward
- As per 2021 PAT guidelines

Conclusion

- **NO** content changes
- Theory content is clustered/compressed to save teaching time.
- Theory content from Term 3 is moved to Term 2.
- PAT to be integrated with Software Engineering
- No June examination



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