

# 2021 RECOVERY CURRICULUM AND ASSESSMENT PLANS

## INFORMATION TECHNOLOGY (IT) GRADE 11

Implementation: January 2021



# Presentation Outline



**Purpose**



**Amendments to the Annual Teaching Plan (ATP)**



**Amendments to School Based Assessment (SBA)**



**Conclusion**




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# Purpose

- To mediate the amendments of the recovery 2021 Annual Teaching Plan (ATP) including School Based Assessment (SBA) for **Information Technology Grade 11** for implementation in January 2021. 
- To ensure that **meaningful teaching proceeds** during 2021 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*



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# 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**.

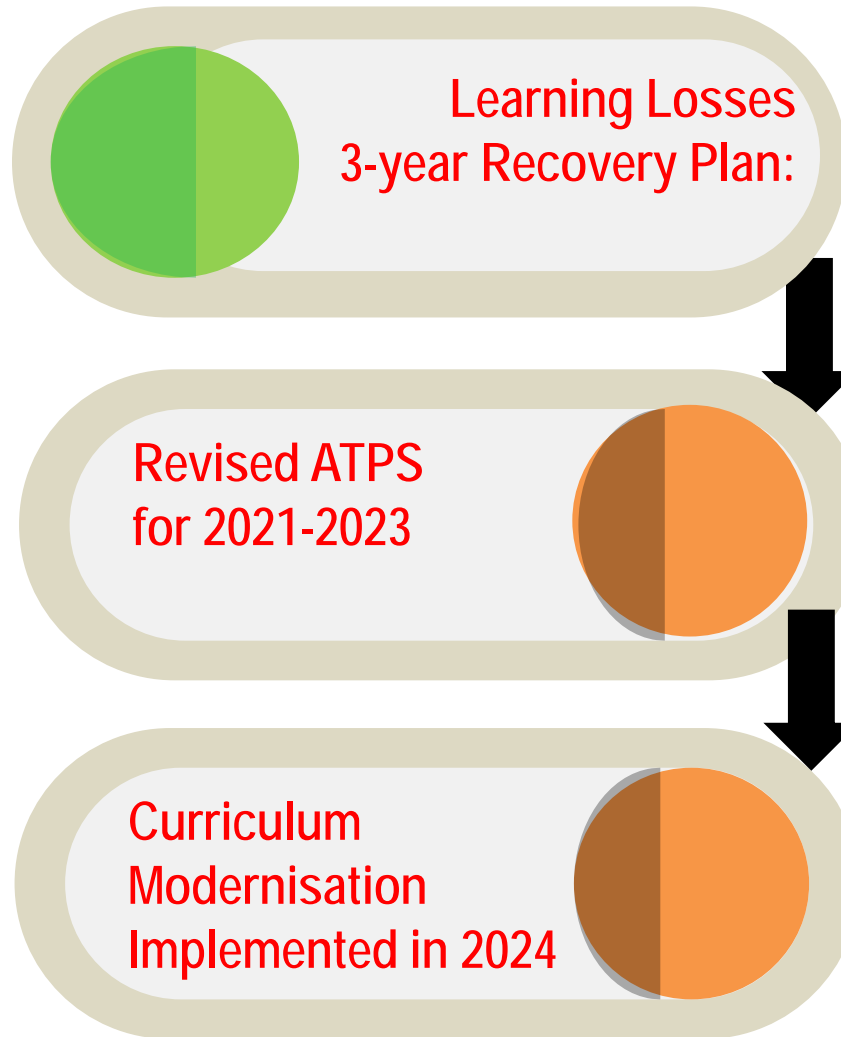
Furthermore, the revision of the school calendar **and** intermittent closure of many schools negatively **impacted** the **ability** of teachers to **implement** the **revised 2020 ATPs** as envisioned.

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



## ASSUMPTION 4

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.

## ASSUMPTION 5

5

All Circulars related to the 2020 ATPs including SBA to be withdrawn and revised to align to the 2021 ATPs.

## ASSUMPTION 6

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

Methods (functions and procedures) moved to Grade 12

Other practical content repackaged for new time frames



# Term 1

Term 1 45 days	Week 1 27-29 Jan (3)	Week 2 1-5 Feb	Week 3 8-12 Feb	Week 4 15-19 Feb	Week 5 22-26 Feb	Week 6 1-5 Mar	Week 7 8-12 Mar	Week 8 15-19 Mar	Week 9 23-26 Mar (4)	Week 10 29-31 Mar(3)
CAPS Topic	Hardware	Software	LOOP	LOOP	Networks	LOOPS	String Manipulation	String Manipulation	Comp Manage + Social Imp	Methods
Core Concepts, Skills and Values	<ul style="list-style-type: none"> <li>Extend hardware concepts:</li> <li>Motherboard and its Components</li> <li>Flow/ transfer of data between components</li> <li>Expansion cards</li> <li>Modular design</li> <li>Cache memory and caching</li> <li>Memory</li> <li>Computer performance</li> </ul>	<ul style="list-style-type: none"> <li>Types of OS's: cost/size/ hardware/platform</li> <li>Programming language compilers</li> <li>Multi-tasking/multi-threading/multi-processing</li> <li>Virtual memory (Role + purpose)</li> <li>Virtualisation – overview</li> </ul>	For Loops pre-conditional	Post-conditional (while, repeat until)	<ul style="list-style-type: none"> <li>Overview of physical aspects of a network</li> <li>Communication (Wi-Fi, WiMAX, 5G, LTE)</li> <li>Data transmission</li> <li>Overview of network innovation (role and purpose)</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Nested loops:</li> <li>Simple problems</li> <li>"" drawings,</li> <li>multiplication tables etc.</li> <li>Tracing through the algorithms,</li> <li>aspects of initialisation at various points in the structure.</li> </ul> <p>Combination of loops and decision making</p>	<ul style="list-style-type: none"> <li>String manipulation using string methods:</li> <li>Position/copy/delete/ insert</li> <li>Inserting/deleting characters</li> <li>Reinforce decision making and Loops</li> </ul>	<ul style="list-style-type: none"> <li>Determine position of a character</li> <li>Find a character/ substring</li> <li>Determine the length of a string</li> <li>Reinforce decision making and Loops</li> </ul>	<p>Safeguarding against threats: Safety and security</p> <p>Threats: Physical access/Theft/Portable media</p> <p>Hardware failure: Storage/Power</p> <p>Network vulnerability: - Virus, worm, Trojan, rootkit, spoofing, phishing"</p> <p>Remedies: Backup/UPS/passwords/ rights/ firewalls/anti-virus, validation</p> <p>Social issues – applicable to term 2 content</p> <p>Effects of digitalisation</p>	<p>Auxiliary methods to perform simple string manipulation in the form class</p> <ul style="list-style-type: none"> <li>Date and time objects</li> <li>Changing the date and time</li> <li>Formatting date and time</li> <li>Date calculation</li> </ul> <p>Date methods: time to string, date to string, test for leap year</p>
Requisite Pre-Knowledge	Grade 10 theory and programming skills acquired									





# Term 2

TERM 2: 51 days	Week 1: 13-16 Apr (4)	Week 2: 19-23 Apr	Week 3: 28-30 Apr (3)	Week 4: 03-07 May	Week 5: 10-14 May	Week 6: 17-21 May	Week 7: 24-28 May	Week 8: 31 May-4 Jun	Week 9: 07-11 Jun	Week 10: 14-18 Jun (4)	Week 11: 21-25 Jun
CAPS topic	Electronic Communication	Methods + Text files	Text files	Database Design	Database Design	Database Design	Social imp + Database Management	Arrays	Arrays	Arrays	Database Design + PAT
Concepts, skills and values	<ul style="list-style-type: none"> <li>Mobile/ wireless / e-communication</li> <li>Use of Mobile technology</li> <li>Use of Wireless technologies</li> </ul> E-communication: <ul style="list-style-type: none"> <li>Protocols</li> <li>Data security</li> <li>E-communication Devices</li> </ul>	<ul style="list-style-type: none"> <li>Consolidate methods term 1</li> <li>Text Files: Input and output</li> <li>Text file procedures</li> <li>Reading from a text file</li> <li>Utilise exceptions - catch errors on input and output</li> </ul>	<ul style="list-style-type: none"> <li>Generate Text-based reports</li> <li>Algorithms and trace tables</li> <li>Adding to a text file</li> </ul> Reinforce Loops	<ul style="list-style-type: none"> <li>Relationship – data/ information/ knowledge/ decision making.</li> <li>Accessing and manipulating data</li> <li>Characteristics of quality data</li> <li>Qualities of valuable information</li> <li>Grouping data and maintain data</li> <li>Create a simple database without relationships</li> </ul>	<ul style="list-style-type: none"> <li>Create simple database: Table design NO relations</li> <li>Primary key and foreign key</li> <li>Simple entity relations diagrams (ERD)</li> </ul>	<ul style="list-style-type: none"> <li>Normalisation (concept only)</li> <li>Design and create relational database</li> <li>Set up relationships between tables</li> <li>Characteristics of a good database</li> <li>Problems with databases</li> </ul>	<ul style="list-style-type: none"> <li>Describe + Examples DBMS</li> <li>Database types – size and accessibility</li> <li>Overview of database-related careers and roles of people involved</li> </ul> Social issues applicable to term 2 content <ul style="list-style-type: none"> <li>Discuss the effect of Computer and human error:</li> <li>Discuss the effect of cybercrime</li> </ul>	Arrays as data structure - 1D <ul style="list-style-type: none"> <li>Structure: Step through items</li> <li>Basic operations e.g. sum; average; minimum; maximum; aggregate</li> </ul>	Arrays as data structure – 1D <ul style="list-style-type: none"> <li>Searching (linear search and/or binary search algorithm)</li> </ul>	Arrays as data structure – 1D <ul style="list-style-type: none"> <li>Sorting an array (discuss both sorting methods, only use one to for teaching practical)</li> </ul>	What is software development? Planning and implementing a solution Start with  Process, sort, query (generating information from a database)  Start PAT
Requisite pre-knowledge	Grade 10 theory and programming skills acquired + Term 1 theory and programming skills acquired										

# Term 3

TERM 3: 52 days	Week 1: 13-16 Jul (4)	Week 2: 19-23 Jul	Week 3: 26-30 Jul	Week 4: 02-06 Aug	Week 5: 10-13 Aug (4)	Week 6: 16-20 Aug	Week 7: 23-27 Aug	Week 8: 30 Aug-03 Sep	Week 9: 6-10 Sep	Week 10: 13-17 Sep	Week 11: 20-23 Sep (4)
CAPS topic	Arrays	Database Design + PAT	Application Development	Software engineering + PAT	Application Development	Application Development PAT	Application Development PAT	Database Design	Database Design Concepts T2	Database Design	Database Application
Concepts, skills and values	<p>Arrays as data structure – 1D</p> <ul style="list-style-type: none"> <li>Parallel arrays</li> <li>Simple nested loops</li> <li>Arrays with reinforcing Text Files</li> </ul>	<p>Query a database using a join on a maximum of two tables with multiple criteria</p>	<p>Extend to database programming: -Accessing a database through Delphi constructs Set up a connection to a database (1 table) -Develop a multi-form GUI incorporating controls</p>	<ul style="list-style-type: none"> <li>What is software development?</li> <li>Planning and implementing a solution</li> <li>Design the interface and the solution</li> <li>Code/implement</li> <li>Test and debug the program</li> <li>Document, implement and maintain the program</li> <li>Planning techniques using any appropriate tools</li> <li>Dynamic Instantiation of active and passive components (functions and procedures) – GUI design</li> </ul>	<p>Design and develop solutions for specific problems that include computational thinking and applying software engineering skills – Apply generic algorithms as part of the solution – Incorporating database transactions managed by methods or events</p>	<ul style="list-style-type: none"> <li>Navigate the records of a dataset</li> <li>Modify individual fields and records</li> <li>Manipulate a dataset object and records</li> </ul> <p>PAT Devise a specific algorithm where applicable to solve a problem utilising user-defined code constructs or built-in methods</p>	<p>Coding constructs in execution of DB Transactions</p> <ul style="list-style-type: none"> <li>Access fields and records within a dataset with code constructs and methods</li> <li>Navigate the records of a dataset</li> <li>Modify individual fields and records</li> <li>Manipulate a dataset object and records</li> </ul> <p>PAT</p>	<p>Design guidelines Design and create a relational database Explain and motivate relational database design Normalisation (overview and purpose)</p> <p>Programming to incorporate relational databases</p>	<p>Set up relationships between tables 1:M e.g. register class pupils Two tables showing master detail relationship with at least one foreign key in one table</p> <p>PAT</p>	<p>Design and develop solutions for specific problems Apply generic algorithms Incorporating database transactions managed by methods or events PAT Motivate the use of a specific algorithm – Validate the solution against a set of data using different techniques, e.g. trace tables, watches, manual output comparison</p>	<p>Create a query to extract information from a database using a relationship on a maximum of two tables with multiple criteria</p>
Requisite pre-knowledge	Grade 10 theory and programming skills acquired + Term 1,2 theory and programming skills acquired										

# Term 4

TERM 4: 47 days	Week 1: 05-08 Oct (3)	Week 2: 11-15 Oct	Week 3: 18-22 Oct	Week 4: 25-29 Oct	Week 7 - 10 1 Nov – 8 Dec Exams		
CAPS topic	Internet and WWW	Internet Services	Social Implications + PAT	Revision + PAT	Final Examination		
Concepts, skills and values	Overview of the evolution of the Internet in terms of: <ul style="list-style-type: none"><li>• Software and applications (definition)</li><li>• Internet of Things (IoT)</li><li>• Big data concepts</li><li>• Overview of multimedia as part of Internet technologies</li><li>• Media</li></ul>	<ul style="list-style-type: none"><li>• Overview of Internet services technologies</li><li>• Types of websites (what they offer)</li><li>• Overview of supporting technologies:</li><li>• Security services (purpose, advantages and limitations)</li><li>• Internet related careers</li></ul>	<ul style="list-style-type: none"><li>• Social issues applicable to term 4 content</li><li>• Discuss the social implications of big data.</li></ul> Describe the influences of globalisation and fourth industrial revolution (4IR)  PAT	Content using Case Studies - All Topics  PAT	<b>PAPER 1</b> Marks: 150 – Time: 3 hours  <b>Question 1:</b> Basic, general programming skills: Arrays, nested loops, built-in functions  <b>Question 2:</b> Functions and procedures, File handling  <b>Question 3:</b> Database  <b>Question 4:</b> General problem-solving	<b>PAPER 2</b> Marks: 150–Time: 3 hours  <b>Section A: Question 1</b> Short questions (±20 marks)  <b>Section B: Question 2</b> Systems Technologies (±25 marks)  <b>Section C: Question 3</b> Communications and Network Technologies (±25 marks)  <b>Section D: Question 4</b> Data and Information Management (±25 marks)  <b>Section E: Question 5</b> Solution Development (±25 marks)  <b>Section F: Question 6</b> Integrated Scenario (±30 marks)	
	Requisite pre-knowledge	Grade 10 theory and programming skills acquired + Term 1,2,3 theory and programming skills acquired				<b>Cognitive levels:</b> Lower order – 30%; Middle order-40%; Higher order-30%	
	Resources (Not textbook) to enhance learning	YouTube videos / Mr Long – channel / DBE textbook / Workshop material / Study guides / PowerPoints					
	Informal assess; remediation	1 informal assessment tasks	1 informal assessment tasks	1 informal assessment tasks	1 informal assessment tasks		

# Overview of Assessment Changes

## School-based Assessment (SBA)

No June Examination

June Examination replaced by controlled test.



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# Revised Programme of Assessment

Terms	Term 1		Term 2	Term 3		Term 4	
Tasks	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	
Assessment	Theory Test	Practical Test	Practical Test	Open book test or Case Study or Integrated task	Practical Test	Final Practical Exam	Final Theory Exam
SBA Weighting	20%	20%	20%	20%	20%	50%	50%
Promotion weighting	Convert to 60%					Convert to 10%	Convert to 10%
Total Marks	Min: 45	Min: 45	Min: 45	Min: 45	Min: 45	150	150
Time Allocation	Minimum: 60 min	Minimum: 60 min	Minimum: 60 min	Minimum: 60 min	Minimum: 60 min	3 hours	3 hours
				Promotion weighting of PAT: 20%			

# Revision of Examination Structure

## Paper 1 (Practical) – Proposed layout



**Marks: 150 – Time: 3 hours**



### **Question 1:**

Basic, general programming skills: Arrays, nested loops, built-in functions



### **Question 2:**

Functions and procedures, File handling



### **Question 3:**

Database



### **Question 4:**

General problem-solving



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# Revision of Examination Structure

## Paper 2 – Theory – Proposed layout

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**Marks: 150 – Time: 3 hours**

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**Question 1:**      *Short questions (±20 marks)*

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**Question 2:**      *Systems Technologies (±25 marks)*

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**Question 3:**      *Communications and Network Technologies (±25 marks)*

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**Question 4:**      *Data and Information Management (±25 marks)*

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**Question 5:**      *Solution Development (±25 marks)*

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**Question 6:**      *Integrated Scenario (±30 marks)*

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# Conclusion

- The theory content is clustered and compressed for accelerated learning.
  - Follow a learner-directed learning approach supported by presentations, videos, questions and quizzes
  - Time gained is used for teaching and practising practical content
- Changes to the practical components
  - Moved methods to Grade 12



# Contact Details

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