

2021 National Annual Teaching Plan: Grade 12 – Term 1: Information Technology (IT)

TERM 1 45 days	Week 1: 27-29 Jan (3)	Week 2: 01-05 Feb	Week 3: 08-12 Feb	Week 4: 15-19 Feb	Week 5: 22-26 Feb	Week 6: 01-05 Mar	Week 7: 08-12 Mar	Week 8: 15-19 Mar	Week 9: 23-26 Mar (4)	Week 10: 29-31 Mar (3)
CAPS topic	Hardware	Database: Design	Database: Design and Concept	Software + Networks	Database: Application + SQL	Database: SQL	Database: SQL + PAT	E-communication + Social Implications	Methods	Software Engineering Principles + PAT
Concepts, skills and values	Mobile technologies Motivate why typical computer system	Design guidelines Design and create a relational database Explain and motivate relational database design Normalisation (overview and purpose) Design and develop solutions for specific problems Apply generic algorithms Incorporating database transactions managed by methods or events	Explain and motivate relational database design Normalisation Transaction processing Characteristics of a good database design Caring for and managing data Hacking through data	Cloud computing and virtualisation  For and against Setting up a network Sharing concepts Remote access	Create a query to extract information from a database using a relationship on a maximum of two tables with multiple criteria Design and develop a solution incorporating SQL	Design and develop a solution incorporating SQL	Design and develop a solution incorporating SQL  PAT: Task description and analysis of requirements	Overview of security concepts  Reducing the environmental impact – computer usage Ways to stay informed about computer technology Getting latest updates	Auxiliary methods to perform simple string manipulation in the form class  User defined methods with and <u>without</u> parameter passing (primitive data types) - Procedures - Functions - Arguments vs parameters"	Overview and comparison of different methodologies such as waterfall, rapid application development (RAD), incremental and agile  PAT: Analysis of requirements using an appropriate methodology
Requisite pre-knowledge	Gr 10 & 11: Hardware	Gr 11: Database design		Gr 10 & 11: Software + Networking	Gr 11: Database design			Gr 10 & 11: E-communication + Social Implications	Gr 10 & 11: Method: Application + skills	Gr 10 & 11: PAT development knowledge 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	
SBA (Formal Assessment)					TASK 1: THEORY TEST		PAT	TASK 2: ALTERNATIVE TASK		

2021 National Annual Teaching Plan: Grade 12 – Term 3: Information Technology (IT)

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
<b>CAPS topic</b>	<b>Methods + OOP</b>	<b>OOP</b>	<b>OOP + Computer Management</b>	<b>Software Eng. Principles</b>	<b>Text File + Array consolidation</b>	<b>2D Arrays</b>	<b>2D Arrays + PAT</b>	<b>Social implications</b>	<b>Software Eng. Principles</b>	<b>PAT</b>	<b>PAT</b>
<b>Concepts, skills and values</b>	Consolidate methods from term 1  Basic input validation techniques Reinforce past programming skills OOP	Develop a simple user-defined class Modifications to a class Object Instantiation Call method	Finalise OOP  Factors influencing CM Recommend management tasks	Reinforce software engineering principles Interface design	Text file consolidation  Arrays as a data structure consolidation	Arrays as a data structure - Structure Arrays as a data structure - Step through items - Fill and display: row/column labels; formatting	Arrays as a data structure - Row/Column aggregates  Practical Assessment Task – continue	Computer criminals Types of cybercrimes Effect of cyber crimes  Computer crimes / Internet-related fraud scams, attacks / Phishing / Unauthorised remote control or admin / Right to access vs privacy / Safeguards	Use algorithmic thinking and software engineering principles  Develop solutions for a variety of problems, that include both database and non-database problems*	Practical Assessment Task - continue	Practical Assessment Task – continue
<b>Requisite pre-knowledge</b>	Gr 10 & 11: Method: Application + skills	Gr 10 & 11: Method: Application + skills	Gr 11: Past programming skills	Gr 11: Past programming skills and knowledge	Gr 11: Past programming skills and knowledge	Application of all knowledge	Gr 11: Past programming skills and knowledge	Gr 11: Past programming skills and knowledge	Gr 11: Past programming skills	Application of all knowledge	Application of all knowledge
<b>Resources (Not textbook) to enhance learning</b>	YouTube, Websites, Workshop notes										
<b>Informal assess; remediation</b>		2 informal assessment tasks.	2 informal assessment tasks.		2 informal assessment tasks.		1 informal assessment tasks.	1 informal assessment tasks.	1 informal assessment tasks.		
<b>SBA (Formal Assessment)</b>				<b>TASK 3 PRACTICAL TEST</b>			<b>PAT</b>			<b>PAT</b>	<b>PAT</b>

2021 National Annual Teaching Plan: Grade 12 – Term 3: Information Technology (IT)

TERM 3: 52 days	Week 1: 13-16 Jul (4)	Week 2: 19-23 Jul	Week 3: 28-30 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	Weeks 9-12 05 – 23 September				
CAPS topic	Software Engineering + PAT	Software Engineering + PAT	PAT + Internet and WWW	Internet Services + Social Implications	Database Design Concepts	PAT + Application Development	Application Development	Application Development	<p><b>TASK 4: TRIAL EXAMINATION</b></p> <table border="1"> <thead> <tr> <th>PAPER 1</th> <th>PAPER 2</th> </tr> </thead> <tbody> <tr> <td> <b>Marks: 150 – Time: 3 hours</b>  <b>Question 1</b>                      Basic, general programming skills  <b>Question 2</b>                      Database  <b>Question 3</b>                      Object-oriented programming (OOP)  <b>Question 4</b>                      General problem-solving                 </td> <td> <b>Marks: 150–Time: 3 hours</b>  <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)                 </td> </tr> </tbody> </table> <p><b>Cognitive levels:</b>                      Lower order – 30%; Middle order-40%; Higher order-30%</p>	PAPER 1	PAPER 2	<b>Marks: 150 – Time: 3 hours</b> <b>Question 1</b> Basic, general programming skills <b>Question 2</b> Database <b>Question 3</b> Object-oriented programming (OOP) <b>Question 4</b> General problem-solving	<b>Marks: 150–Time: 3 hours</b> <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)
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Concepts, skills and values	Reinforce software engineering principles PAT – Finalise	Reinforce software engineering principles PAT – Finalise	PAT – Finalise Trends and emerging technologies Online applications and storage Improve searching	Online applications / Running instruction (Locally + Online) Formatting output / Computers provide solutions to issues of national and international importance Evolution of social networking and the effect on society:/ Information overload / Availability of personal information Privacy and info sharing	Data collection - Overview and examples Data warehousing - Describe data warehousing - Purpose and uses Data mining - description and purpose Location-based data	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					
Requisite pre-knowledge	Past programming skills and knowledge	Past programming skills and knowledge	Past programming skills and knowledge	Past programming skills and knowledge	Past programming skills and knowledge	Past programming skills	Past programming skills and knowledge	Past programming skills and knowledge					
Resources (Not textbook) to enhance learning	YouTube, Websites, Workshop notes												
Informal assess; remediation	1 informal assessment tasks	1 informal assessment tasks	1 informal assessment tasks	1 informal assessment tasks	1 informal assessment tasks		2 informal assessment tasks	2 informal assessment tasks					
SBA (Formal Assessment)	PAT	PAT	PAT		PAT	PAT							

2021 National Annual Teaching Plan: Grade 12 – Term 4: Information Technology (IT)

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 5-10: 01 November – 08 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	FINAL NSC EXAMINATION