Grade 12 Computer Applications Technology 2024

TERM 1: {3 lessons x 45 minutes + 1 lesson x 65 minutes} per week

Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
1.	Solution Development: Word	**[12] LU 3: Word Processing Breaks, Links, Mailings & Track Changes** * Reinforce content, concepts, and skills from Grades 10 & 11		☐ Exercise 1 {p43} ☐ Exercise 2 {p44}	**[12] Solution Development - Word Processing:** (All word processing concepts and skills from Grade 10 and 11 can be assessed.)
		3.1 Line and Page Breaks {p45}	☐ Activity 1 {p45}	☐ Exercise 3 {p46}	• Paragraph Formatting – Line and Page breaks {pagination - widow/orphan control; Keep with Next; Keep Lines together; Page Break before}
		3.2 Links {p47}	☐ Activity 2 {p48} ☐ Activity 3 {p49}	☐ Exercise 4 {p49} ☐ Check Point 1 {p50}	• Links – bookmark, cross reference
		3.3 Mailings {p50} ▪ Different Data Sources ▪ Online Forms	☐ Activity 4 {p51}	☐ Exercise 5 {p50} ☐ Exercise 6 {p51} ☐ Exercise 7 {p52}	• Mailings Mail Merge – different data sources, e.g. word processing table, database, csv file, e-mail list • Merge with data collected via electronic forms {Microsoft/Google via Spreadsheet}
2.	Solution Development: HTML	**[12] LU 6: HTML** * Reinforce content, concepts, and skills from Grades 11 6.1 Table tags {p106}	☐ Activity 1 {p106} ☐ Activity 2 {p108} ☐ Activity 3 {p108} ☐ Activity 4 {p109}		**[12] Solution Development - HTML:** (All HTML concepts and skills from Grade 11 can be assessed.) • HTML table tags
			☐ Activity 5 {p110} ☐ Activity 6 {p111} ☐ Activity 7 {p111}		
				☐ Check Point 1 {p113} ☐ Exercise 1 {p114} ☐ Exercise 2 {p115}	
				☐ Exercise 3 {p116} ☐ Exercise 4 {p117}	

3.	System Technologies	**[12] LU 1: Hardware**
		* Reinforce content and concepts from Grades 10 & 11
		1.1 Modular Design {p1}
		1.2 Components and Devices that Affect Computer Performance {p2}
					[12] System Technologies:
					(All systems technologies concepts and skills from Grade 10 and 11 can be assessed.)
					• Making informed decisions regarding the basic components of the system unit, e.g. buying a system that will be suitable for running software {system requirements} regarding processor and RAM
					• Interpret specifications regarding CPU and RAM {basic}
					• Recommend system unit for a specific scenario
					• Factors that influence performance such as:
					  − RAM
					  − Type of processor, processor speed, number of cores, amount of cache
					  − Number of applications running and caching
					  − Disk optimisation

		1.3 Secondary Storage {p3} 1.4 Choosing Input Devices {p6} 1.5 Choosing Output Devices {p8}			• Capacity, robustness, backup, fit for purpose • Recommend storage device{s} for a specific scenario

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					• Making buying decisions: − What to buy?/Why?/Fit for purpose • Recommend input device{s} for a specific scenario • Recommend output device{s} for a specific scenario • Improving components/devices specific to the task: Which printer is best for task? Why? - Use given factors such as Budget, speed, colour, cost per page, graphics capability, photo printing, paper type and size, system compatibility, future needs, wireless capability, mobility, fit for purpose - Resolution, economy and environmental considerations
		1.6 Upgrade vs Replace {p12} 1.7 Typical Computer Systems {p12}			• Know about upgrading and how to integrate equipment with new products/technology • Understand when to upgrade hardware/software covered in previous sections, when to buy new equipment or software and make informed decisions
		1.8 Newer Technologies {p13}		☐ Check Point 1 {p14}	• New related technology - purpose - how do they work? - advantages and disadvantages **[12] Social Implications:** • Define and describe drone technology
4.	Solution Development: Excel	**[12] LU 8: Spreadsheet Functions** * Reinforce content, concepts, and skills from Grades 10 & 11		☐ Exercise 1 {p126}	**[12] Solution Development - Spreadsheet:** (All spreadsheet concepts and skills from Grade 10 and 11 can be assessed.)
		8.1 Number Functions ▪ ROUNDUP, ROUNDDOWN, INT, TRUNC	☐ Activity 1 {p219}	☐ Exercise 2 {p130}	• Formulas/Functions - ROUNDUP, ROUNDDOWN, INT, TRUNC,
		8.2 Text Functions ▪ UPPER, LOWER, PROPER, TRIM ▪ LEFT, RIGHT, MID, CONCATENATE, &	☐ Activity 2 {p132} ☐ Activity 3 {p135}	☐ Exercise 3 {p135} ☐ Exercise 4 {p136}	• Text functions: LEFT, RIGHT, MID, CONCATENATE
		▪ LEN, VALUE, FIND, SUBSTITUTE, REPLACE	☐ Activity 4 {p137} ☐ Activity 5 {p138}	☐ Exercise 5 {p1433}	• Text functions: LEN, VALUE, FIND, SUBSTITUTE • Identify appropriate functions to suit scenario and solve problems
5.	Information Management	**[12] LU 16: Information Management** * Reinforce content, concepts, and skills from Grades 10 & 11			**[12] Information Management:** (All information management concepts and skills from Grade 10 and 11 can be assessed.)
		16.1 Simple Input Processing Output {IPO} Examples {p323} 16.2 Extending the IPO Model {p324}		☐ Activity 1 {p324} ☐ Activity 2 {p326}	• Gather information and data for use in the IPO system, advanced examples
		16.3 Analysing More Advanced Examples {p324} 16.4 Selecting the Appropriate Software Package {p324}		☐ Check Point 1 {p227} ☐ Check Point 2 {p227} ☐ Check Point 3 {p229}	
	PAT	PAT Discussion			**IEB PAT Documentation**
6.	Solution Development: Excel	**[12] LU 8: Spreadsheet Functions** 8.3 Date & Time Functions {p144} ▪ NOW	☐ Activity 6 {p144}	☐ Exercise 6 {p147}	**[12] Solution Development - Spreadsheet:** • Formulas

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Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
		▪ DATE, YEAR, MONTH, DAY	☐ Activity 7 {p146}	☐ Exercise 7 {p147}	• Basic date and time calculations: DATE, YEAR, MONTH, DAY, DAYS
		▪ TIME, HOUR, MINUTE, SECOND	☐ Activity 8 {p149}	☐ Exercise 8 {P150}	• HOUR, MINUTE, SECOND, TIME, NOW
		▪ DAYS, NETWORKDAYS, YEARFRAC	☐ Activity 9 {p151}		• WEEKNUM{}; WORKDAY{}; NETWORKDAYS{}; YEARFRAC{}; EDATE{}
		▪ WORKDAY, EDATE, WEEKNUM, WEEKDAY	☐ Activity 10 {p154} ☐ Activity 11 {p155}	☐ Exercise 9 {p155} ☐ Check Point 1 {p156}	• Identify appropriate functions to suit scenario and solve problems
7.	Solution Development: Excel	**[12] LU 10: Spreadsheets Data & Charts** * Reinforce content, concepts, and skills from Grades 10 & 11			**[12] Solution Development - Spreadsheet:** (All spreadsheet concepts and skills from Grade 10 and 11 can be assessed.)
		10.1 Data {p179} ▪ Tools: Text to Column, Flash Fill, Data Validation ▪ Outline ▪ SUBTOTAL	☐ Activity 1 {p180} ☐ Activity 2 {p183} ☐ Activity 3 {p185}	☐ Exercise 1 {p182} ☐ Check Point 1 {p187} ☐ Exercise 2 {p187}	• Data Tools – Text to columns, Remove Duplicates, Data Validation, Consolidate • Outline – Group, Ungroup, Subtotal • SUBTOTAL function {AVERAGE, COUNT, SUM}
		10.2 Charts {p188} ▪ Format Charts ▪ People Chart	☐ Activity 4 {p188} ☐ Activity 5 {p190}	☐ Exercise 3 {p189} ☐ Exercise 4 {p192}	• Charts/graphs: Create/Insert, format and edit ⎼ Changing the scale on the axes ⎼ Minimum and maximum values ⎼ Re-labelling axes, etc. ⎼ Creating stacked bar and column graphs using a graphic, etc. ⎼ Creating Combo Charts ⎼ Emphasizing parts of chart, e.g. largest pie slice • Pictographs {data as a picture}
		▪ Combo Charts ▪ Sparklines	☐ Activity 6 {p193} ☐ Activity 7 {p199}	☐ Exercise 5 {p197} ☐ Exercise 6 {p199}	• Appropriate chart/graph for a given scenario • Sparklines
8.	System Technologies	**[12] LU 2: Software** * Reinforce content and concepts from Grades 10 & 11 2.1 Windows Security Screen {p16} 2.2 Task Manager {p17}	☐ Activity 1 {p16} ☐ Activity 2 {p16} ☐ Activity 3 {p17}		**[12] System Technologies:** (All systems technologies concepts and skills from Grade 10 can be assessed.) *{Update Windows 11}* • Windows Operating System ⎼ Windows Task Manager ⎼ Identify general hardware configuration of a computer in terms of: ~ the processor ~ memory ~ hard drive size **[12] Solution Development – Operating System:** • Windows Settings – ⎼ Personalization – Background, lock screen, colours
		2.3 Windows Operating System Management {p22}	☐ Activity 4 {p22} ☐ Activity 5 {p23} ☐ Activity 6 {p25} ☐ Activity 7 {p26}		**[12] Solution Development – Operating System:** • Windows Operating System Management ⎼ Using Storage Sense ⎼ Connecting to Wi-Fi / Airplane Mobile / Mobile Hotspot

Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
			☐ Activity 8 {p27} ☐ Activity 9 {p28} ☐ Activity 10 {p31}		− Managing Printing {Default Printer and Printer Queue management} − Updating Time and Language Settings {Date & Time; Region} − Applying Ease of Access Functionality • Windows Settings – − Privacy – Location, camera − Update & Security – Windows Update, recovery, backup − Phone – link your Android, iPhone − Apps – uninstall, defaults, optional features − Accounts – Your accounts, email sync, work, other people
		2.4 Apps {p32} 2.5 Management of Files and Folders {p35} 2.6 Application Software {p37}	☐ Activity 11 {p32} ☐ Activity 12 {p32} ☐ Activity 13 {p34} ☐ Activity 14 {p34} ☐ Activity 15 {p36}		**[12] System Technologies:** • Risks of using flawed software • Management of files/folders − File Metadata – e.g. author, title properties − File search {advanced} – wildcard search − File conversion **[12] Solution Development – Operating System:** • Digital Virtual Assistants − Using Cortana / Google Assistant/ Siri
		2.7 Artificial Intelligence (AI) {p39}		☐ Check Point 1 {p4}	**[12] System Technologies:** • New related technology - purpose - how do they work? - advantages and disadvantages
9.	Solution Development: Database	*Database* * Reinforce content, concepts, and skills from Grade 11			**[12] Solution Development – Database:** (All database concepts and skills from Grade 11 can be assessed.)
		[12] LU 14: Database Queries 14.1 Summary of Operators for Queries {p274}	☐ Activity 1 {p275}	☐ Exercise 1	• Queries - Queries using: and, or, not, wildcards (*), IS NULL operator, between or >= AND <+
		14.2 Queries Joining more than one Table {p279}	☐ Activity 2 {p279} ☐ Activity 3 {p280}	☐ Exercise 2 {p280}	
		14.3 Calculations in Queries {p283}	☐ Activity 4 {p283} ☐ Activity 5 {p285}	☐ Exercise 3 {p287}	- Add fields with calculations in queries
10.	Solution Development: Database	**[12] LU 14: Database Queries** 14.4 Functions {p287} ▪ COUNT, SUM, AVE, MIN, MAX ▪ COUNT and AND, COUNT and OR ▪ YEAR 14.5 Joining Text Fields {p292}	☐ Activity 6 {p288} ☐ Activity 7 {p289} ☐ Activity 8 {p291} ☐ Activity 9 {p292}	☐ Exercise 4 {p291}	**[12] Solution Development – Database:** • Queries - Add fields with calculations in queries - YEAR(date())
		14.6 Cross-tab Queries {p294}	☐ Activity 10 {p294} ☐ Activity 11 {p296}	☐ Exercise 5 {p297} ☐ Exercise 6 {p297} ☐ Exercise 7 {p302}	• Queries - Cross tab queries

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Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
		[12] LU 15: Database Reports & Switchboards 15.1 Grouped Reports {p308}	☐ Activity 1 {p308}	☐ Exercise 1 {p305} ☐ Check Point 1 {p316} ☐ Exercise 2 {p317} ☐ Exercise 3 {p317}	• Reports − Design reports – grouped − Group headers and footers − Calculations in groups such as sum, average, counting, maximum, minimum
		15.2 Database Switchboard Forms {p318}	☐ Activity 2 {p319}	☐ Exercise 4 {p322}	• Forms - Use of a Switchboard/Main form as a menu item which links multiple forms

TERM 2: {3 lessons x 45 minutes + 1 lesson x 65 minutes} per week

Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
1	**Solution Development: Word**	**[12] LU 3: Word Processing Breaks, Links, Mailings & Track Changes** 3.4 Track Changes {p61}	☐ Activity 6 {p61} ☐ Activity 7 {p63} ☐ Activity 8 {p64} ☐ Activity 9 {p65}	☐ Check Point 2 {p67} ☐ Exercise 8 {p67}	**[12] Solution Development - Word Processing:** • Review − Tracking – track changes, show mark-up, reviewing pane − Changes – accept or rejecting
		[12] LU 4: Word Processing Document Review & Macros 4.1 Document Review {p68} ▪ Document Accessibility ▪ Document Language ▪ Document Translate ▪ Compare Document Versions	☐ Activity 1 {p69} ☐ Activity 2 {p69} ☐ Activity 3 {p70} ☐ Activity 4 {p71} ☐ Activity 5 {p72}	☐ Exercise 1 {p74}	− Proofing – thesaurus, word counts − Accessibility − Language – translate, select language − Compare – compare versions
		▪ Protect Documents	☐ Activity 6 {p76} ☐ Activity 7 {p78} ☐ Activity 8 {p80} ☐ Activity 9 {p83}	☐ Exercise 2 {p84} ☐ Exercise 3 {p84} ☐ Check Point 1 {p85}	**[12] Solution Development - Word Processing:** • Review - Protect – block authors, restrict editing **[12] Solution Development – Operating System:** • File Properties − Previous Versions − Password Protect files
		4.2 Macros {p85}	☐ Activity 10 {p86} ☐ Activity 11 {p89}	☐ Check Point 2 {p91} ☐ Exercise 4 {p91}	**[12] Solution Development - Word Processing:** • Macros – record & view
2	**Internet & Network Technologies**	**[12] LU 5: The Internet and WWW** * Reinforce content and concepts from Grades 10 & 11 5.1 Internet Connections {p92}	☐ Activity 1 {p92}		**[12] Internet and Network Technologies:** (All internet and network concepts and skills from Grade 10 and 11 can be assessed.) • Concept of broadband and bandwidth • Throttling and Shaping • Make buying and informed decisions regarding Internet connection and access − ADSL/Fibre - Data transmission speed - measured megabits per second (mbps) - CAP, bundle
		5.2 Internet Browser Features {p94} 5.3 Internet Searches {p96}			• Typical features of web browsers such as: − Blocking websites − Caching

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Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
					− Browser plug-ins – ∼ What are they? Why are they needed? ∼ Examples: Pop-up blocker/Ad blocker, toolbar extension • Search Engine Optimization
		5.4 Web-based Applications {p94}			• Web-based applications vs stand-alone applications • Advantages, disadvantages, examples and what they offer (purpose) • Uses of computer communications such as: − Wikis − GPS, Geo-tagging (location-based services)
		5.5 Chatbots {p99} 5.6 Surface, Deep and Dark Web {p100} 5.7 Cryptocurrencies {p102}		☐ Check Point 1 {p105}	• New related technology - purpose - how do they work? - advantages and disadvantages **[12] Social Implications:** • Ethical/Legal issues: − Deep and Dark Web − Impact of Cryptocurrencies • Define and describe chatbots
3	Solution Development: Excel	**[12] LU 9: Spreadsheets Lookup & Reference** * Reinforce content, concepts, and skills from Grades 10 & 11		☐ Exercise 1 {p159}	**[12] Solution Development - Spreadsheet:** (All spreadsheet concepts and skills from Grade 10 and 11 can be assessed.)
		9.1 AND and OR {p160}	☐ Activity 1 {p162}	☐ Check Point 1 {p161}	
		9.2 Nested IF {p162{} 9.3 IFS {p164}	☐ Activity 2 {p165}	☐ Exercise 2 {p166} ☐ Exercise 3 {p166}	• Formulas/Functions − Nested IF
		9.4 CHOOSE {p167} 9.5 INDEX and MATCH {p168}	☐ Activity 3 {p167} ☐ Activity 4 {p170}	☐ Exercise 4 {p171}	− CHOOSE(); AND(); OR(); MATCH(), INDEX()
4	Solution Development: Excel	**[12] LU 9: Spreadsheets Lookup & Reference** 9.6 VLOOKUP {p171} 9.7 HLOOKUP {p174}	☐ Activity 5 {p173} ☐ Activity 6 {p175}	☐ Exercise 5 {p173} ☐ Exercise 6 {p175}	**[12] Solution Development - Spreadsheet:** • Formulas/Functions − Vertical & horizontal lookup, including error indicator #N/A VLOOKUP; HLOOKUP, XLOOKUP
		9.8 XLOOKUP {p175}	☐ Activity 7 {p177}	☐ Exercise 7{p177} ☐ Check Point 2 {p178}	
		[12] LU 11: Spreadsheet Pivot Tables 11.1 Pivot Tables {p201}	☐ Activity 1 {p201} ☐ Activity 2 {p203} ☐ Activity 3 {p204} ☐ Activity 4 {p206} ☐ Activity 5 {p209} ☐ Activity 6 {p210} ☐ Activity 7 {211} ☐ Activity 8 {p212}	☐ Exercise 1 {p207}	• Pivot Chart and Pivot Tables • Filtering
		11.2 Pivot Charts {p214}	☐ Activity 9 {p219}	☐ Check Point 1 {p215} ☐ Exercise 2 {p216}	

Week	Topic	Textbook Content	Activities	Tasks	IEB SAGS
5	**Solution Development: Excel**	**[12] LU 12: Spreadsheets Links, Protect & Macros** 12.1 Links {p218}	☐ Activity 1 {p218} ☐ Activity 2 {p219}		**[12] Solution Development - Spreadsheet:** • Links
				☐ Exercise 1 {p221} ☐ Exercise 2 {p222}	

		12.2 Protect {p223}	☐ Activity 3 {p223}
			☐ Activity 4 {p225}
				☐ Check Point 1 {p227}
				☐ Exercise 3 {p228}
					[12] Solution Development - Spreadsheet:
					• Review
					  − Protect – Sheet, Workbook, Allow Edit Ranges
					[12] Solution Development – Operating System:
					• File Properties
					  − Previous Versions
					  − Password Protect files

		12.3 Macros {p229}	☐ Activity 5 {p229} ☐ Activity 6 {p230} ☐ Activity 7 {p231}	☐ Check Point 2 {p233} ☐ Exercise 4 {p233}	**[12] Solution Development - Spreadsheet:** • View − Macros
6	Social Implications	**[12] LU 7: Social Implications** * Reinforce content and concepts from Grades 10 & 11			**[12] Social Implications:** (All Social Implications concepts and skills from Grade 10 and 11 can be assessed.)

		7.1 Impact on Society {p119}			• How technology can benefit or harm society (people):
					  − Distributed computing power
					  − Information overload
					• Impact and use of social networking sites and technologies such as:
					  - Cyber profile /digital footprint
					  - Crowdfunding
					  - Virtual communities

		7.2 Computer Crime {p121}			• Ethical/Legal issues:
					  − Deep and Dark Web
					  − Impact of Cryptocurrencies
					• Computer crimes in relation to hardware, software, information, identity theft and multi-step verification, bandwidth theft, theft of time and services
					  − Internet-related fraud scams
					• Social Engineering
					  − Pornography

		7.3 Online Authentication {p124}		☐ Check Point 1 {p124}	
7	**Revision:** **Paper I: Practical**	Word Processing			
		Spreadsheets			
		Database			
		HTML			
8	**Revision:** **Paper II: Theory**	System Technologies			
		Network & Internet Technologies / Social Implications			
		Information Management			
		Solution Development			

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TERM 3: {3 lessons x 45 minutes + 1 lesson x 65 minutes} per week

Week	Topic	Textbook Content	Activities	Tasks	Notes
1	**PAT**	Complete PAT Phase 1			
		Complete PAT Phase 1			
		Complete PAT Phase 1			
		Complete PAT Phase 2			
	PAT	Complete PAT Phase 2			
		Complete PAT Phase 2			
		Complete PAT Phase 2			
		Complete PAT Phase 2			
3	**PAT**	Complete PAT Phase 2			
		Complete PAT Phase 2			
		Complete PAT Phase 2			
	PAT	Upload PAT Files			
4	**Revision**	Paper I: Practical			
		Paper I: Practical			
		Paper II: Theory			
		Paper II: Theory			