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Aligned to DBE Recovery ATPs

GRADE 12

Mathematics

Survival Guide

Covid-19

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COVID-19 safety guidelines for teachers and learners

Gatherings at school

Where schools are open for learning, it is up to management to take decisive action to ensure sites are not simultaneously used for other functions such as shelters or treatment units in order to reduce the risk.

Implement social distancing practices that may include:

- A staggered timetable, where teachers and learners do not arrive/leave at the same time for the beginning and end of the school day.
- Cancelling any community meetings/events such as assemblies, cake sales, market day, tuckshop, after-care classes, matric dance, Eisteddfod and other events.
- Cancelling any extra-mural activities such as ballet classes, swimming lessons, sport games, music class and other events that create a crowd gathering.
- Teaching and modeling creating space and avoiding unnecessary touching.
- Limiting movement and interaction between classes.
- Schools with an established feeding scheme plan are to ensure that hygiene and social distancing is always implemented. Teachers and staff members assisting with food distribution are to wear masks, sanitise prior to issuing food items and learners are to stand 1,5m apart in the queue.

Wear a mask at all times.

1. Restrooms/ toilets

Hand washing

Washing hands with soap and water or using alcohol-based hand sanitisers is one of the most important ways to help everybody stay healthy at school. Critical to this is preparing and maintaining handwashing stations with soap and water at the toilet and in each classroom.

Teachers and learners should always wash their hands after:

- eating
- entering the classroom
- using the toilet
- blowing your nose or coughing
- touching tears, mucous, saliva, blood or sweat.

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2. Premises and Classroom setting

> When schools open, classroom settings should be altered in order to promote hygiene, safety and social distancing.

Changed classroom settings may include:

- Cleaning and disinfecting school buildings, classrooms and especially sanitation of facilities at least once a day, particularly surfaces that are touched by many people (railings, lunch tables, sports equipment, door and window handles, toys, teaching and learning tools etc.).
- Ensure the proper ventilation and fresh flow of air through classrooms.
- Providing learners with vital information about how to protect themselves by incorporating the importance of hygiene, handwashing and other measures of protecting themselves, into the lessons.
- Promoting best handwashing and hygiene practices and providing hygiene supplies.

- Prepare and maintain handwashing stations with soap and water, and if possible, place alcohol-based hand sanitisers in each classroom, at entrances and exits, and near lunchrooms and toilets.

- Ensure teachers and learners wear a mask at all times.

Social distancing

- Space the learners out in the classroom (or outdoors) – try to keep learners separated by a minimum of 1,5m.

- Create space for learner's desks to be at least 1,5m apart
- Learners are not to exceed 30 per class or 50% of original class size

- Learners should not share cups, eating utensils, or food
- Do not let learners eat items that fall on the floor or chew on pencils or other objects
- Avoid close contact, like shaking hands, hugging or kissing

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3. Social behaviour

It is extremely vital during a pandemic that focus is not only directed towards optimal physical health and hygiene but finding ways to facilitate mental health support.

- Treat everybody with respect and empathy – no teasing about COVID-19.
- Encourage kindness towards each other and avoid any stereotyping when talking about the virus.
- Stay home if you have a temperature or are ill.
- Do not touch people who are ill, but be empathetic.

- Wear a mask at all times.

Dear Teacher

The National State of Disaster due to the COVID-19 pandemic has resulted in the disruption of Education in South African and the loss of valuable teaching time and disruption of the school calendar.

As a result of this the DBE has created a Recovery Framework including revised ATPs to assist schools and teachers in ensuring the 2020 school year is completed.

This plan addresses curriculum trimming and reorganisation to ensure core skills and knowledge are taught so that learners may progress to the next grade.

The following DBE website https://www.education.gov.za/Home/RecoveryPlan2020.aspx has the following useful documents available for you to use:

- Circular S2 of 2020 Revised ATPs for Gr 12 and Gr 7
- ATP Mediation documents by grade and subject
- National Phase Content Plans by phase and subject
- National Revised ATPs by grade and subject

At Pearson South Africa, we believe that education is the key to every individuals' success.

To ensure that despite the shortened teaching year, teachers and learners can meet all the necessary learning outcomes for the year, we have created this resource to support teachers and learners during this difficult time.

This Survival Guide aims to identify areas where teacher-facing time is reduced and various strategies such as trimming the curriculum, grouping or reorganising content and creating opportunities for learner-centered work and blended learning can take place.

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HOW TO USE THIS SURVIVAL GUIDE

CAPS curriculum: comprehensive summary of the CAPS topics and sub-topics and time allocation

1. CAPS time allocation
2. Recovery CAPS time allocation according to the Recovery ATP's

Survival guide strategy: proposed strategies that can be used to save teaching time. Two approaches to reducing teaching time are suggested:

1. *trimming* the curriculum and therefore teaching time
2. Curriculum *reorganisation/ clustering/grouping* topics across the year where it makes sense and therefore reducing teaching time

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
SUB-TOPIC	UNITS	CAPS TIME ALLOCATION	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
4. Floods	**Unit 1** Causes of floods	4 hours	1.5 hours	Retain	Group with Unit 2 Effects of floods
	Unit 2 Effects of floods		1.5 hours	Retain	
	Unit 3 Why some communities are at higher risk than others			Retain but reduce	Flipped concept, learners prepare before lesson in preparation and then class discussion *4
Revision and assessment	Revision and assessment formal and informal including feedback should be done on an ongoing basis Revision and end-of-year examination: Formal assessment Task: Source - based & paragraph writing 50 Marks November examination: 50 marks	3 hours		Reduced	
TOTAL HOURS = 15					

ASSESSMENT						
	TERM 1	TERM 2	TERM 3	TERM 4	NOVEMBER EXAM	
POA	Project, assessed as part of formal assessment for Term 1	June exam cancelled	Test: 2nd week of September, based on content & concepts taught from reopening of schools 1 June – up to this point	Formal assessment based on concepts and content taught from September to November		
SBA	Map skills project	Test: Earthquakes and volcanoes and population growth and change		Test: Natural resources and conservation in South Africa TOTAL MARKS: 50	QUESTION 1: 25 marks TYPES OF QUESTIONS Source-based, data handling and definitions of concepts	CONTENT Natural resources and conservation in South Africa
					QUESTION 2: 25 marks TYPES OF QUESTIONS Case study, definitions of concepts, data handling and paragraph writing	CONTENT Management of resources

*1 Learners bring posters to class for class discussions. Flipped concept, learners prepare before lesson and then class discussion around content. Teacher chooses 1 resource. Natural resources on Earth and use and abuse of them have been omitted according to the Revised national teaching plans.
*2 Learners working in groups choose either community or eco tourism, create a poster to explain in class. Flipped concept, learners prepare before lesson and then class discussion around content.
*3 Remove due to time constraints and addressed in Gr 10

Explain the rationale behind the trimming or grouping suggested

Assessment and revision for POA and SBA as per Recovery ATP's.

Notes

- Grade 12 subjects' content will not be trimmed/cut, but time can be saved through grouping and reorganising content.
- Teachers should follow the amended guidelines for assessment as set out by the DBE. Recovery ATP's per subject and grade.
- No curriculum condensing strategies have been suggested for Term 1, as it is assumed that Term 1 content was taught.

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Contents

ROADMAP TO FET PHASE SUBJECTS 1

Grade 12 CAPS Overview Mathematics 2

Grade 12 National Revised Annual Teaching Recovery Plan 2020 3

Term 1 4

- Number Patterns, Sequences and Series 4
- Euclidean Geometry 5
- Trigonometry 6
- Suggested formal assessment 6

Term 2 7

- Analytical Geometry 7
- Functions (formal definition, exp and log inverse and Polynomials) 8
- Differential Calculus including Polynomials 10
- Finance, Growth and Decay 12
- Suggested formal assessment 12

Term 3 13

- Finance, Growth and Decay 13
- Statistics 14
- Counting and Probability 15
- Suggested formal assessment 15

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Grade 12

Mathematics

ROADMAP TO FET PHASE SUBJECTS

The instructional time in Grades 10 – 12 as follows:

Subject	Time allocation per week (Hours)
Home Language	4.5
First Additional Language	4.5
Mathematics	4.5
Life Orientation	2
A minimum of any three subjects selected from **Group B** Annexure B, Tables B1-B8 of the policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*, subject to the provisos stipulated in paragraph 28 of the said policy document.	12 (3 × 4h)
Total	**27,5**

Abreviations:

Annual teaching plan – ATP

Curriculum and Assessment Policy – CAPS

Further Education and Training Phase (grades 10 – 12) – FET

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Grade 12 CAPS Content Overview Mathematics

The table below represents the order of topics as stated in the FET CAPS document.

MATHEMATICS: GRADE 12 PACE SETTER											
1	**TERM 1**										
Weeks	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
Topics	Number patterns, sequences and series			Functions: Formal definition; inverses			Functions: exponential and logarithmic	Finance, growth and decay		Trigonometry	
Assessment	Assignment				Investigation or project			Test			
2	**TERM 2**										
Weeks	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
Topics	Trigonometry		Functions: polynomials	Differential Calculus			Analytical Geometry				
Assessment	Test								MID-YEAR EXAMINATION		
3	**TERM 3**										
Weeks	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK7	WEEK 8	WEEK 9	WEEK 10	
Topics	Euclidean Geometry		Statistics		Counting and Probability		Revision				
Assessment	Test								TRIAL EXAMINATION		

4	**TERM 4**										**Paper 1 3 hours**		**Paper 2 3 hours**	
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	Algebraic expressions and equations (and inequalities)	25	Euclidean Geometry	50
	Revision			FINAL EXAMINATION						Admin	Number patterns	25	Analytical Geometry	40
											Functions and graphs	35	Trigonometry and measurement	40
											Finance, growth and decay	15	Statistics	20
											Differential Calculus	35		
											Counting and probability	15		
											TOTAL MARKS	**150**	**TOTAL MARKS**	**150**

Total of 25 weeks teaching time = 112 hours

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Topic number(S) -As according to CAPS	Revised order For COVID-19 strategy	Topic name	Revised Time taken (Weeks)
		TERM 1	
1	1	Number Patterns, Sequences and Series	3
10	2	Euclidean Geometry	4
5 and 6	3	Trigonometry	3
		TERM 2	
9	4	Analytical Geometry	1
2, 3 and 7	5 and 6	Functions (formal definition, exp and log inverse and Polynomials)	3
8	7	Differential Calculus including Polynomials	3
4	8	Finance, Growth and Decay	1
		TERM 3	
4	9	Finance, Growth and Decay	1
11	10	Statistics	2
12	11	Counting and Probability	2
		Total	**23**

This order has been considered in relation to the **National Revised Annual Teaching Recovery Plan** proposed by the DBE to accommodate the impact of COVID-19 and is therefore an interim deviation from the original curriculum.

- If all provinces have followed the Pace setter provided in the CAPS document, Topics 1 to 5 would have already been covered in term 1.
- If any any of the above mentioned topics have already been covered in term 1, they can be skipped and be done as revision once the syllabus is complete.

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Mathematics Grade 12

Term 1 TOPIC 1: Number Patterns, Sequences and Series

CAPS Suggested Time
13.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
1: Number Patterns, Sequences and Series	1: Patterns including Arithmetic and Geometric sequence	Arithmetic sequence	1 week (4.5 hours)	3 weeks (13.5 hours)	Spend more time on application. *1	If Number patterns was not covered in term 1, let it follow Differential Calculus.
		Geometric Sequence				
	2: Patterns including Arithmetic and Geometric series	Arithmetic series	1 week (4.5 hours)		New content, No cutting.	
		Geometric series				
	3: Sum to infinity	Derivation	1 week (4.5 hours)			
		The sum of Arithmetic series				
		The sum of Geometric Series				
		Application				
	4: Sigma notation	Sigma notation				
		Arithmetic Series using sigma notation				
		Geometric Series				
		Geometric Series using sigma notation				
			TOTAL HOURS = 13.5		**TOTAL REVISED HOURS =13.5**	

*1 The concept of arithmetic and geometric sequence has been covered throughout the learners time in Senior phase and FET.

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Term 1 TOPIC 10: Euclidean Geometry

CAPS Suggested Time
9 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
10: Euclidean Geometry	1: Grade 9 and 11 Revision	Prove theorems Theorems	1 week (4.5 hours)	4 weeks (18 hours)	This section can be cut. *2	
		Sufficient conditions for polygons to be similar				
		Necessary and sufficient conditions for polygons to be similar.				
	2: Equiangular triangles and similarity.				Spend less time on this.	
	3: Triangles with proportional sides and similarity (Proportionality theorem)	Proofs triangles with sides in proportion are similar	1 week (4.5 hours)			
	4: Pythagoras theorem and similar triangles				Less focus on this section	
			TOTAL HOURS = 9		**TOTAL REVISED HOURS = 18**	

*2 All grade 11 revision work in unit 1 can be covered in the form of revision notes / Self assessment.

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Term 1 Topic 5 and 6: Trigonometry

CAPS Suggested Time
18 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
5: Compound and double angles	1: Recap on Previous grades	Definitions and signs of ratios in all four quadrants	1 Week (4.5 hours)	3 weeks (13.5 hours)	Do this in a form of tests or revision notes. (summaries) *3	This topic will be grouped with topic 6.
		Reduction formulae				
		Special angles				
		Co-ratios and identities				
	2: Compound and Double angle Identities	Derive the compound and double angle identities			Less focus on proofs of compound and double angle identities *4	
		Proofs of the Compound and Double angle identities				
	3: Identities Involving Compound Angles	Prove identities using compound and double angle identities	1 week (4.5 hours)			
6: Trig equations and 2d and 3d problem solving	1: Trig equations *5	Solve equations and determine the general solution	1 Week (4.5 hours)		Focus on trig Equations (general/ specific solutions) involving Compound Angles	This topic will follow straight after topic 5 instead of waiting a term. Content flows into each other to avoid any revision time.
	2: Problem solving in two and three dimensions	Problems in two dimensions	1 Week (4.5 hours)		Focus on Problems in three dimensions *6	
		Problems in three dimensions			Revision of cosine, sine and area rule to be done using notes. (grade 11 content)	
			TOTAL HOURS = 18		**TOTAL REVISED HOURS =13.5**	

Suggested formal assessments for term 1:
Assignment: Patterns involving sequences and series, Sum to infinity, sigma notation.
Investigation/project: Proofs(accepting results established in earlier grades):
Test: Proof and use of the compound angel and double angle identities, Solve problems in two and three dimensions.

*3 All revision work can be covered in the form of revision notes / Self-assessment
*4 The derivation of the formula : cos(A – B) = cosA cosB + sinA sinB will not be examined. How to derive all the other formulae from this formula for cos(A – B) is examinable.
*5 Grade 11 trig equations can be revised using the form of notes and self-assessment.
*6 Problems in two dimensions have been covered in grade 11.

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Term 2 TOPIC 9: Analytical Geometry

CAPS Suggested Time
9 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
9: Analytical Geometry	1: The equation of a circle.	Grade 11 revision: Analytical formule between Points A • Distance • Gradient • Midpoint	1 week (4.5 hours)	1 week (4.5 hours)	Grade 11 revision can be cut. *7	Analytical Geometry Starts term 2 as learner's knowledge of tangents to a circle will be fresh.
		Circles that are centred at the origin				
		Circles that are centred off the origin				
	2: The equation of a tangent to a circle.	Grade 11 Revision on Tangent to a circle *7	1 week (4.5 hours)			
		Determine the equation of the tangent passing through a given point				
			TOTAL HOURS = 9		**TOTAL REVISED HOURS = 4.5**	

*7 All grade 11 revision work in unit 1 and 2 can be covered in the form of revision notes / Self assessment.

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Term 2 TOPIC 2, 3 and 7: Functions (formal definition, exp and log, inverse and Polynomials)

CAPS Suggested Time
22.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
2: Formal definition and inverses	1: Definition of Function (including restricted domain)	1-1	3 Weeks (4.5 hours)	2 weeks (9 hours)	This can be done in 1 week.	Like topics 5 and 6, topics 2, 3 and 7 will be grouped together.
		Many to 1(relation)				
		Vertical and horizontal line test				
	2: Inverse of prescribed functions	General concept of the *inverse of a function* and how the domain of the function may need to be restricted (in order to obtain a one-to-one function) to ensure that the inverse is a function.				
3: Exponential and logarithmic	1: Revision of exponential laws and functions	Revision of grade 11 work where $y = a^x$ where $b > 0$ and $b \neq 0$	1 week (4.5 hours)		This section can be cut. *8	
	2: Definition of logarithms and logarithmic functions	Definition and laws defined by $y = \log_b x \leftrightarrow x = b^y$ where $b > 0$ and $b \neq 1$				
	3: Inverse of exponential and logarithmic functions	Key features of exponential functions				
		Laws of inverse functions				
		Log graphs and inverses *9				

*8 Removing grade 11 revision could cut out 1 hour 30 min of teaching time. All revision work can be covered in the form of revision notes / Self-assessment.

*9 The graph of the function define $y = \log_b x$ for both the cases $0 < b < 1$ and $b > 1$.

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CAPS Suggested Time
22.5 hours

Term 2 TOPIC 2, 3 and 7: Functions (formal definition, exp and log, inverse and Polynomials)

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
7: Polynomials	1: Factorise third-degree polynomials.	Definition of a polynomial	1 Week (4.5 hours)	1 week (4.5 hours)	New work. Cannot be trimmed	
		Application				
	2: Apply factor and remainder theorem to polynomials of degree at most 3. *10	Remainder theorem				
		Factor theorem				
		application				
TOTAL HOURS = 22.5				**TOTAL REVISED HOURS = 13.5**		

*10 No proofs required.

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Term 2 TOPIC 8: Differential Calculus

CAPS Suggested Time
13.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
8: Differential Calculus	1: Limits	Concept of a limit	1 week (4.5hours)	3 weeks (13.5 hours)	New content. No trimming	Topic 8 will follow topic 7, once the section of functions is covered. This is a new section of work to learners. Try to avoid cutting time when covering this section of work.
		Limits of functions				
		Gradient of function at a point				
	2: Derivatives	Use limits to define the derivative of a function f at any x: *11 $f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$				
		Find derivatives: From first principles Using rules: a) $\frac{d}{dx}[f(x) \pm g(x)] = \frac{d}{dx}[f(x)] \pm \frac{d}{dx}[g(x)]$ b) $\frac{d}{dx}[kf(x)] = k\frac{d}{dx}[f(x)]$, k is a constant				
		Equation of a tangent				
		Second derivative				
	3: Equation of a tangent	Find equations of tangents to graphs of functions.				
	4: The second derivative	Stationary points				
		Point of inflection				
		Concavity test				

*11 Generalise to find the derivative of f at any point x in the domain of f, i.e., define the derivative function $f'(x)$ of the function $f(x)$. Understand intuitively that $f'(a)$ is the gradient of the tangent to the graph of f at the point with x-coordinate a.

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Term 2 TOPIC 8: Differential Calculus

CAPS Suggested Time
13.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
	5: Cubic graphs	Definition & characteristics.	1 week (4.5 hours)		New content. No trimming	
		Sketch Cubic graphs using differentiation: a) Determine co-ordinates of stationary points b) Points of inflection				
		Determine X-intercepts of the graph using: a) Factor theorem b) Other techniques.				
	6: Optimisation and rate of change (Application)	Solve practical problems concerning optimisation and rate of change, including calculus of motion.	1 week (4.5 hours)			
			TOTAL HOURS = 13.5		**TOTAL REVISED HOURS = 13.5**	

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Term 2 TOPIC 4: Finance, Growth and Decay

CAPS Suggested Time
4.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
4: Finance, Growth and Decay	1: Derivation and use of formulae for annuities.	Future value	1 week (4.5 hours)	1 week (4.5 hours)	New content. No cutting	This topic is split across two terms.
		Present value *12				
	2: Annuity application and problem solving. $A = P(1 + in)$ and $A = P(1 + i)^n$ to solve problems.	Sinking fund				
		Future value annuities that end early				
		Balance outstanding in present value annuities				
		Delayed start of payments				
			TOTAL HOURS = 4.5		**TOTAL REVISED HOURS = 4.5**	
Suggested formal assessment for term 2: **Test:** Polynomials, Differential Calculus						

*12 Derivation of the formulae for present and future values, Fv and Pv, , using the geometric series formula, should be part of the teaching process to ensure that the learners understand where the formulae come from. These formulae hold only when payment commences one period from the present and ends after *n* periods.

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Term 3 TOPIC 4: Finance, Growth and Decay

CAPS Suggested Time
4.5 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
4: Finance, Growth and Decay	3: Calculate time periods using logarithms	Revision on logarithms	1 Week (4.5 hours)	1 week (4.5 hours)		
		application				
	4: Analyse investment and loan options	Investments				
		Retirement annuities				
		Pyramid schemes				
		Loan options				
			TOTAL HOURS = 4.5		**TOTAL REVISED HOURS = 4.5**	

*12 Derivation of the formulae for present and future values, Fv and Pv, , using the geometric series formula, should be part of the teaching process to ensure that the learners understand where the formulae come from. These formulae hold only when payment commences one period from the present and ends after *n* periods.

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Term 3 TOPIC 11: Statistics

CAPS Suggested Time
9 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
11: Statistics	1: Revision of symmetric and skewed data. (grades 10 – 12)	Box and whisker diagram	1 week (4.5 hours)	2 weeks (9 hours)	Cut content *13	This topic will maintain its position as the second last topic of the grade 12 Mathematics curriculum.
		Ogive				
		Understanding the variance and standard deviation of ungrouped data				
		Understanding a histogram				
	2: Statistical Summaries and Techniques (Bivariate data)	Defining and working with bivariate data	1 week (4.5 hours)		New content. No cutting. Using the calculator to determine the equation of the least squares regression line. (using the formula – independent study)	
		Correlation and regression lines				
		Scatter plots				
		Analysing scatter plots				
		Equation of line of best fit using a calculator				
		Determining the line of best fit using the least squares method				
			TOTAL HOURS = 9		**TOTAL REVISED HOURS = 9**	

*13 All grades 10 – 11 revision work in unit 1 can be covered in the form of revision notes / Self assessment. This could save a total of 2 hours 15 min

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Term 3 TOPIC 12 : Counting and probability

CAPS Suggested Time
9 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
SUB-TOPIC	**UNITS**	**Content Specification/ content, concepts**	**CAPS TIME ALLOCATION**	**RECOVERY TIME ALLOCATION**	**CURRICULUM TRIMMING**	**CURRICULUM REORGANISATION/ GROUPING**
12: Counting and probability	1: Revision on previous grades	Dependent and independent events	1 Week (4.5 hours)	2 weeks (9 hours)	Cut content * 14	This topic will maintain its position as the second last topic of the grade 12 Mathematics curriculum.
		The product rule for independent events: $P(A \text{ and } B) = P(A) \times P(B)$.				
		The sum rule for mutually exclusive events A and B: $P(A \text{ or } B) = P(A) + P(B)$				
		the identity: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$				
		The complimentary rule: $P(\text{not } A) = 1 - P(A)$				
		Ven diagrams				
		Contingency table				
	2: Use Venn diagrams, tree diagrams and contingency tables to solve problems	Application and problem solving			Unit 2 and 3 can be covered in 1 week	
	3: The Fundamental Counting Principle	Definition	1 week (4.5hours)			
		Ordered arrangement and repetition				
		Factorial notation				
		Word arrangements where letters are identical				
			TOTAL HOURS = 9		TOTAL REVISED HOURS = 9	

Suggested formal assessment for term 3:
Test: This test should cover all new concepts covered in Finance, statistics and Counting and Probability.

*14 All grades 10 – 11 revision work in unit 1 can be covered in the form of revision notes / Self assessment.

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