







**GAUTENG PROVINCE
MATHEMATICS – ANNUAL TEACHING PLAN – GRADE 11
FINAL GRADE 11 ATP 2025 :**


DATE	TOPIC	CONTENT	FORMAL (F)	ASSESSMENT	DATE COMPLETED	% COMPLETE
TERM 1			2 TASKS FOR TERM 1			
Week 1 15/1 -17/1 (3 days)	Exponents and Surds	1.Simplify expressions and solve equations using the laws of exponents for rational exponents where, $x^{\frac{p}{q}} = \sqrt[q]{x^p}$; $x > 0$; $q > 0$ 2.Add, subtract, multiply and divide simple surds 3.Solve simple equations involving surds.				3%
Week 2 20/1 – 24/1 (5 Days)	Equations	1.Complete the square 2.Solve Quadratic equations by ▪ factorization ▪ using the quadratic formula	F	Investigation / Project Weighting: 25%		6%
Week 3 27/1 – 31/1 (5 Days)	Equations and inequalities	3.Solve Quadratic inequalities in one unknown (Interpret solutions graphically.)				9%
Week 4 3/2 – 7/2 (5 Days)	Equations and inequalities	NB: It is recommended that the solving of equations in two unknowns is important to be used in other equations like hyperbola-straight line as this is normal in the case of graphs 4.Equations in two unknowns, one of which is linear and the other quadratic.				12%
Week 5 10/2 – 14/2 (5 Days)	Equations and inequalities	5.Nature of roots Determine the nature of roots and the conditions for which the roots are Real, Non-Real , equal , unequal , Rational and Irrational				15%
Week 6 17/2 –21/2 (5 Days)	Trigonometry	1. Derive and use the identities: $\tan\theta = \frac{\sin\theta}{\cos\theta}$, $\theta \neq k \cdot 90^\circ$, k an odd integer; and $\sin^2\theta + \cos^2\theta = 1$.				18%

<p>Week 7 24/2 – 28/2 (5 Days)</p>	 <p>Trigonometry</p>	<p>2. Derive and use reduction formulae to simplify the following expressions: 2.1 $\sin(90^\circ \pm \theta)$; $\cos(90^\circ \pm \theta)$; 2.2 $\sin(180^\circ \pm \theta)$; $\cos(180^\circ \pm \theta)$ and $\tan(180^\circ \pm \theta)$; 2.3 $\sin(360^\circ \pm \theta)$; $\cos(360^\circ \pm \theta)$ and $\tan(360^\circ \pm \theta)$; 2.3 $\sin(-\theta)$; $\cos(-\theta)$ and $\tan(-\theta)$;</p>				<p>21%</p>
<p>Week 8 3/3 – 7/3 (5 Days)</p>	 <p>Trigonometry</p>	<p>3. Determine for which values of a variable an identity holds. 4. Determine the general solutions of trigonometric equations. Also, determine solutions in specific intervals.</p>				<p>24%</p>
<p>Week 9 10/3 – 14/3 (5 Days)</p>	<p>Trigonometry</p>	<p>4 Determine the general solutions of trigonometric equations. Also, determine solutions in specific intervals.</p>	<p>F</p>	<p>Test SBA marks: Weighting: 75%</p>		<p>26%</p>
<p>Week 10 17/3 – 21/3 (4 days)</p>	<p>Analytical Geometry</p>	<p>1. Revise, <ul style="list-style-type: none"> • distance between the two points; • gradient of the line segment connecting the two points (and from that identify parallel and perpendicular lines); and • Coordinates of the mid-point of the line segment joining the two points. </p>				<p>29%</p>
<p>Week 11 24/3 – 28/3 (5 Days)</p>	<p>Analytical Geometry</p>	<p>2. Derive and apply, <ul style="list-style-type: none"> • the equation of a line through two given points. • the equation of a line through one point and parallel or perpendicular to a given line; and • The inclination (θ) of a line, where $m = \tan\theta$ is the gradient of the line ($0^\circ \leq \theta \leq 180^\circ$). </p>				<p>32%</p>
<p>END OF TERM 1 SCHOOLS CLOSES ON 28/03/2024</p>						

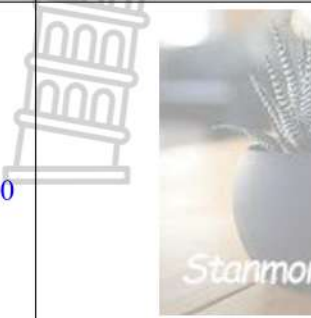
DATE	TOPIC	CONTENT	F	ASSESSMENT	DATE COMPLETED	% COMPLETED
TERM 2		2 TASKS FOR TERM 2				
Week 1 8/4 – 11/4 (4 days)	Euclidean Geometry	1. Accept results established in earlier grades as axioms and, also that a tangent to a circle is perpendicular to the radius drawn to the point of contact.				35%
Week 2 14/4 – 18/4 (4 days)	Euclidean Geometry	2. Then investigate and prove the theorems of the geometry of circles: <ul style="list-style-type: none"> • The line drawn from the centre of a circle perpendicular to a chord bisects the chord. • The line drawn from the centre of a circle to the midpoint of a chord is perpendicular to the chord. • The perpendicular bisector of a chord passes through the centre of the circle. • The angle subtended by an arc at the centre of a circle is double the size of the angle subtended by the same arc at the circle (on the same side of the chord as the centre). 				38%
Week 3 21/4 – 25/4 (4 days)	Euclidean Geometry	<ul style="list-style-type: none"> • Angles subtended by a chord of the circle, on the same side of the chord, are equal. • The opposite angles of a cyclic quadrilateral are supplementary. • An exterior angle of a cyclic quadrilateral is equal to an angle in the alternate segment. 				41%
Week 4 28/4 – 02/5 ()		28 Freedom Day Observed 29 and 30 April Special School Holidays 01 May Workers Day 02 May Special School Holiday				
Week 5 5/5 – 9/5 (5 days)	Euclidean Geometry	<ul style="list-style-type: none"> • Two tangents drawn to a circle from the same point outside the circle are equal in length. • The angle between the tangent to a circle and the chord drawn from the point of contact is equal to the angle in the alternate segment. <p>Use the above theorems and their converses, where they exist, to solve riders.</p>	F	ASSIGNMENT Weighting :25%		44%
Week 6 12/5 – 16/5 (5 days)	Functions	1. Revise the effect of the parameters a and q and investigate the effect of p on the graphs of the functions defined by: <ol style="list-style-type: none"> 1.1. $y = f(x) = a(x + p) + q$ 1.2. $y = f(x) = a(x + p)^2 + q$ 				47%

Week 7 19/5 – 23/5 (5 days)	Functions 	1.3 Revise the effect of the parameters a and q and investigate the effect of p on the graphs of the functions defined by: $y = f(x) = \frac{a}{x+p} + q$				50%
Week 8 26/5 – 30/5 (5 days)	Functions 	1.4 Revise the effect of the parameters a and q and investigate the effect of p on the graphs of the functions defined by: $y = f(x) = a \cdot b^{x+p} + q$ where $b > 0, b \neq 1$				53%
Week 9 2/6 – 6/6 (5 days)	Functions	2. Investigate numerically the average gradient between two points on a curve and develop an intuitive understanding of the concept of the gradient of a curve at a point.				56%
Week 10 9/6 – 13/6 (5 days)	JUNE EXAMINATION	JUNE EXAMINATION	F	JUNE EXAMINATION Paper 1 :100 Paper 2:100 Weighting : 75%		
Week 11 16/6 – 20/6 (4 days)	JUNE EXAMINATION	JUNE EXAMINATION				
Week 112 23/6 – 27/6 (5 days)	JUNE EXAMINATION	JUNE EXAMINATION				
END OF TERM 2 SCHOOLS CLOSES ON 27/06/2025						

DATE	TOPIC	CONTENT	F	ASSESSMENT	DATE COMPLETED	% COMPLETED
TERM 3				2 TASKS FOR TERM 3		
Week 1 22/7 –25/7 (4days)	Trigonometry Functions	3. Point by point plotting of basic graphs defined by $y = \sin \theta$, $y = \cos \theta$ and $y = \tan \theta$ for $\theta \in [-360^\circ; 360^\circ]$. 4. Investigate the effect of the parameter k on the graphs of the functions defined by, $y = \sin(kx)$, $y = \cos(kx)$ and $y = \tan(kx)$				59%
Week 2 28/7 – 1/8 (5 days)	Trigonometry Functions	5. Investigate the effect of the parameter p on the graphs of the functions defined by, $y = \sin(x + p)$, $y = \cos(x + p)$ and $y = \tan(x + p)$				62%
Week 3 4/8 –8/8 (5 days)	Trigonometry Functions	6. Draw sketch graphs defined by: $y = a \sin k(x + p)$, $y = a \cos k(x + p)$ and $y = a \tan k(x + p)$ at most two parameters at a time.				65%
Week 4 11/8 – 15/8 (5 days)	Trigonometry (2D)	1. Prove and apply the sine, cosine and area rules 2. Solve problems in two dimensions using the sine, cosine and area rules.	F	TEST 1 Weighting :50%		68%
Week 5 18/8 - 22/8 (5 days)	Trigonometry (2D)	2. Solve problems in two dimensions using the sine, cosine and area rules.				71%
Week 6 25/8 –29/8 (5 days)	Statistics	1. Revise measures of central tendency and dispersion in ungrouped and grouped data. 2. Revise Five number summary (maximum, minimum and quartiles) and box and whisker diagram. 3. Histograms Frequency polygons				74%
Week 7 1/9 – 5/9 (5 days)	Statistics	4. Ogives (cumulative frequency curves) 5. Variance and standard deviation of ungrouped data 6. Symmetric and skewed data 7. Identification of outliers.				76%

<p>Week 8 8/9 – 12/9 (5 days)</p>	 Probability	<p>1. Revise the use of probability models to compare the relative frequency of events with the theoretical probability.</p> <p>2. Revise the use of Venn diagrams to solve probability problems, deriving and applying the following for any two events in a sample space S:</p> <ul style="list-style-type: none"> • Addition rule $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$; A and B are Mutually exclusive if $P(A \text{ and } B) = 0$; Addition rule for mutually exclusive events A and B is: $P(A \text{ or } B) = P(A) + P(B)$ • A and B are complementary if they are, <ul style="list-style-type: none"> ➤ mutually exclusive and ➤ $P(A) + P(B) = 1$ <p>Then $P(B) = P(\text{not } A) = 1 - P(A)$</p>			<p>79%</p>
<p>Week 9 15/9 – 19/9 (5 days)</p>	<p>Probability</p>	<p>3. Identify dependent and independent events and the product rule for independent events:</p> $P(A \text{ and } B) = P(A) \times P(B)$ <p>4. The use of Venn diagrams to solve probability problems, deriving and applying formulae for any three events A, B and C in a sample space S.</p>	<p>F</p>	<p>TEST Weighting : 50%</p>	<p>82%</p>
<p>Week 10 22/9 – 26/9 (4 days)</p>	<p>Probability</p>	<p>5. Use tree diagrams for the probability of consecutive or simultaneous events which are not necessarily independent.</p> <p>6. Use contingency tables to solve probability problems for three events in a sample space</p>			<p>85%</p>
<p>Week 11 29/9 – 3/10 (4 days)</p>	<p>Finance and growth</p>	<p>1. Revise the use of the simple and compound growth formulae $[A = P(1 + in)$ and $A = P(1 + i)^n$] to solve problems, including interest, hire purchase, inflation, population growth and other real-life problems.</p> <p>2. Understand the implication of fluctuating foreign exchange rates (e.g., on the petrol price, imports, exports, overseas travel).</p>			<p>88%</p>

END OF TERM 3 SCHOOLS CLOSES ON 20/09/2025

DATE	TOPIC	CONTENT	F	ASSESSMENT	DATE COMPLETED	% Completed
TERM 4			1 TASK FOR TERM 4			
Week 1 13/10 – 17/10 (5 days)	 Finance and growth	<p>3. Use simple and compound decay formulae: $A = P(1 - in)$ and $A = P(1 - i)^n$ To solve problems (including straight line depreciation and depreciation on a reducing balance).</p> <p>4. The effect of different periods of compound growth and decay, including nominal and effective interest rates</p>				91%
Week 2 20/10 – 24/10 (5 days)	Number Patterns	<p>1. Revise linear number patterns.(2 days)</p> <p>2. Investigate number patterns leading to those where there is a constant second difference between consecutive terms, and the general term is therefore quadratic</p>	F	TEST		94%
Week 3 27/10 – 31/10 (5 days)	Number Patterns	<ul style="list-style-type: none"> Investigate number patterns leading to those where there is a constant second difference between consecutive terms, and the general term is therefore quadratic 				97%
Week 4 3/11– 7/11 (5 days)	Revision Measurement	<p>1. Revise the volume and surface areas of right-prisms and cylinders.</p> <p>2. Study the effect on volume and surface areas when multiplying any dimension by a constant factor k.</p> <p>Calculate volume and surface areas of spheres, right prisms, right cones and combination of those objects (figures).</p>				100%
Week 5 10/10 – 14/11 (5 days)	Revision Euclidean Geometry					
Week 6 17/11 – 21/11 (5 days)	FINAL EXAMINATION				Final Exam Weighting 75%	
Week 7 24/11 – 28/11 (5 days)	FINAL EXAMINATIONS					
Week 8 1/12 – 5/12 (5 days)	FINAL EXAMINATIONS					

Week 9 8/12 – 10/12 (5 days)	REPROTING				
END OF TERM 4 SCHOOLS CLOSES 10/ 12 / 2025 : END OF YEAR					

note:

- Modelling as a process should be included in all papers, thus contextual questions can be set on any topic.
- Questions will not necessarily be compartmentalised in sections, as this table indicates. Various topics can be integrated in the same question.

Mark distribution for Mathematics NCS end-of-year papers: Grades 10-12			
Paper 1: Grades 12: bookwork: maximum 6 marks			
description	Grade 10	Grade 11	Grade. 12
Algebra and equations (and inequalities)	30 ± 3	45 ± 3	25 ± 3
Patterns and sequences	15 ± 3	25 ± 3	25 ± 3
Finance and growth	10 ± 3		
Finance, growth and decay		15 ± 3	15 ± 3
Functions and graphs	30 ± 3	45 ± 3	35 ± 3
Differential Calculus			35 ± 3
Probability	15 ± 3	20 ± 3	15 ± 3
Total	100	150	150
Paper 2: Grades 11 and 12: theorems and/or trigonometric proofs: maximum 12 marks			
description	Grade 10	Grade 11	Grade 12
Statistics	15 ± 3	20 ± 3	20 ± 3
Analytical Geometry	15 ± 3	30 ± 3	40 ± 3
Trigonometry	40 ± 3	50 ± 3	50 ± 3
Euclidean Geometry and Measurement	30 ± 3	50 ± 3	40 ± 3
Total	100	150	150

NB:**7 SBA TASKS TO BE COMPLETED IN 2025 YEAR END**

MATHEMATICS GRADE 11							
Task Number (SBA)	7 (Seven)						
Term	Term 1		Term 2		Term 3		Term 4
Task Name	Project/ Investigation	Test	Assignment	June Exam	Test	Test	Test
Mark allocation indicate if fixed or suggested	Suggested Minimum Marks 50	Suggested Minimum Marks 50	Suggested Minimum Marks 50	Suggested Minimum Marks 200	Suggested Minimum Marks 50	Suggested Minimum Marks 50	Suggested Minimum Marks 50
Weighting	15%	14%	15%	14%	14%	14%	14%