

**YISHUN SECONDARY SCHOOL  
ADDITIONAL MATHEMATICS  
SECONDARY 4 EXPRESS 2023**

<b>Mathematics Curriculum</b>		<b>Key Programmes</b>
In line with the requirements of the Mathematics Syllabus, teaching of Math at YSS focuses on developing thinking, reasoning and problem-solving skills using Math Modelling, investigations and making connections among mathematical concepts.		
<b>Term 1</b>	<b>Chapter</b>	<b>Assessment</b>
Week 1	<b>(Tue - Thurs) Back to School Programme</b>	
Week 2	<b>Chapter 10: Trigonometric Equations &amp; Identities</b> 10.1 Trigonometric Equations	
Week 3 (HBL – Fri)	10.2 Trigonometric identities 10.3 Addition Formulae	
Week 4 (CNY Holiday –Mon, Tue)	10.4 Double Angle Formulae	
Week 5 (HBL – Fri)	10.5 Proving of identities	
Week 6	10.6 R-Formulae <b>Chapter 11- Gradients, Derivatives &amp; Differentiation Techniques</b> 11.1 Derivatives and gradient functions 11.2 Five rules of differentiation	
Week 7 (HBL – Fri)	Revision for WA1 11.3 Higher derivatives	<b>WA1: Ch 9, 10, 11.1</b>
Week 8	11.4 Increasing and decreasing functions Go through WA1 paper	
Week 9 (HBL – Fri)	<b>Chapter 12: Applications of Differentiation</b> 12.1 Equations of tangent and normal	
Week 10	12.2 Rates of change	
<b>March Holiday Assignment (YSS Mid-Year 2022 paper)</b>		
<b>Term 2</b>	<b>Chapter</b>	<b>Assessment</b>
Week 1	12.3 Stationary points 12.4 Maximisation and minimisation problems	

Week 2 (HBL – Fri)	<b>Chapter 14-Integration</b> 14.1 Integration as reverse of differentiation 14.2 Two rules of integration	
Week 3 (Holiday - Good Friday)	14.3 Integration of power functions	
Week 4 (HBL – Fri)	<b>Chapter 13: Differentiation of Trigonometric, Exponential &amp; Logarithmic Functions and their Applications</b> 13.1 Derivatives of trigonometric functions	
Week 5	13.2 Derivatives of exponential functions 13.3 Derivatives of logarithmic functions.	
Week 6 (Holiday – Hari Raya Puasa, Mon) (HBL – Fri)	<b>Student Learning Fest</b> Revision for WA2	
Week 7 (Holiday – Labour Day, Mon)	13.4 Further applications of differentiation 14.4 Integration of trigonometric functions 14.5 Integration of exponential functions	<b>WA2 (Wk7- 8): Curriculum Time</b> <b>Ch 11 - 12, 14.1 – 14.3</b>
Week 8 (HBL – Fri)	Go through WA2 14.6 Integration of functions of the form $\frac{1}{x}$ and $\frac{1}{ax+b}$ 14.7 Further examples of integration	
Week 9	<b>Chapter 15: Applications of Integration</b> 15.1 Definite Integrals 15.2 Further examples of definite integrals	
Week 10	Mother Tongue Intensive Programme	
<b>June Holiday Assignment (2020 O level paper)</b>		
<b>Term 3</b>	<b>Chapter</b>	<b>Assessment</b>
Week 1 (Holiday- Hari Raya Haji, Thurs)	<b>Chapter 15: Applications of Integration</b> 15.3 Area under a curve	
Week 2 (School Holiday- Youth Day, Mon)	<b>Chapter 16- Kinematics</b> 16.1 Key concepts in kinematics 16.2 Application of differentiation in kinematics	

	16.3 Application of integration in kinematics	
Week 3	<b>Chapter 17 - Proofs in Plane Geometry</b> 17.1 Basic proofs in plane geometry 17.2 Proofs using congruent and similar triangles	<b>Practice Paper</b>
Week 4	17.3 Proofs using quadrilateral properties 17.4 Tangent-Chord Theorem (Alternate Segment Theorem)	
Week 5 National Oral Exams: Tue – Thu <b>HBL: 25-27 July</b>	Topical Revision	
Week 6	Revision ((past year papers)	
Week 7 (National Day celebration – Tue, Holidays - Wed, Thurs)	Revision (past year papers)	
Week 8	Revision (past year papers) <b>Preliminary Examination (17 to 30 Aug)</b>	
Week 9	<b>Preliminary Examination</b>	
Week 10 (Teachers' Day Celebration-Thurs, Holiday - Teachers' Day-Fri)	<b>Preliminary Examination</b>	
<b>September Holiday Assignment (2022 O level papers)</b>		
<b>Term 4</b>	<b>Chapter</b>	<b>Assessment</b>
Week 1	<b>Script Check &amp; Review</b>	
Week 2 – 4	<b>Intensive Revision</b>	<b>Week 3: Practice 2</b>
Week 5	<b>Study Leave</b>	
Week 6 -10	<b>GCE O Level Written Examination</b>	