

MCS Math Analysis & Approaches HL Year 1 Subject Group Overview

Unit Name	Topic 2: Functions	Topic 1: Numbers & Algebra	Topic 3: Geometry & Trigonometry	Topic 4: Probability & Statistics	Topic 5: Calculus	Internal Assessment
Time Frame	5-6 weeks	3-4 weeks	4-5 weeks	7-8 weeks	5 weeks	3-4 weeks
Standards	Topic 2: SL 2.1-2.11,AHL 2.12- 2.14 Topic 1: SL 1.7, AHL 1.16	Topic 1: SL 1.1- 1.4,1.6, 1.8 AHL 1.15	Topic 3: AHL 3.12 - 3.18	Topic 4: SL 4.1 - 4.12	Topic 5: SL 5.1-5.4, 5.6-5.8	Students will choose their standards to focus on for their internal assessment paper.
Content Specific	2.1 Linear Equations, Parallel, Perpendicular Lines 2.2 Domain, Range, Inverses 2.3 Graphs of Functions 2.4 Key features of Graphs 2.5 Composite and Inverse functions 2.6 Quadratic Functions 2.7 Quadratic Equations & Inequalities, discriminant 2.8,2.13 Rational Functions & Equations 2.9 Exponential & Log Functions 2.10 Solving all equations 2.11 Transformations of Graphs 2.12 Polynomial Functions 2.14 Odd/Even Functions 1.7 Laws of Exponents and Logs 1.16 Systems of Linear Equations	1.1 Operations with numbers in scientific notation form 1.2 Arithmetic Sequences 1.3 Geometric Sequences 1.4 Financial Applications of Geometric Sequences 1.6 Algebraic Proofs 1.8 Sum of Geometric Sequences 1.15 Methods of Proofs	3.12 Vectors: Algebraic and Geometric Representations 3.13 Scalar Product - Angle Between 3.14 Vector Equation in 2D and 3D 3.15 Intersections 3.16 Vector (Cross) Products 3.17 Planes 3.18 Intersections and Angles between Lines and Planes	4.1 Population, samples, outliers 4.2 Presentation of data, box-whisker plots, histograms 4.3 Measures of central tendency & dispersion, 4.4, 4.10 Linear Regression 4.5 Probability of Events 4.6, 4.11 Conditional, independent, dependent probability 4.7 Expected Value 4.8 Binomial distribution 4.9, 4.12 Normal distribution	5.1 Intro to Limit and Derivative 5.2 Inc. and Dec. Functions, Interpret $f'(x)$ 5.3 Derivatives with Exponents 5.4 Tangents and Normals 5.6 Chain Rule 5.7 The Second Derivative 5.8 Max/Min and Optimization	
Common Assessment/ Performance Projects	Common Formative Assessments Common Summative Assessment	Common Formative Assessments Common Summative Assessment	Common Formative Assessments Common Summative Assessment	Common Formative Assessments Common Summative Assessment	Common Formative Assessments Common Summative Assessment	Internal Assessment

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	Differentiation For Tiered Learners	Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for learning experiences are included on the district unit planners.
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