EPCHS MATHEMATICS DEPARTMENT:

LEARNING JOURNEY YEAR 13

Pearson Edexcel

Autumn Term

ALGEBRAIC METHODS
Algebraic fractions
Partial fractions
Algebraic division

FUNCTIONS & GRAPHS
Modulus Mappings
Composite Inverse

SEQUENCES & SERIES
Arithmetic Geometric
Recurrence relations
Modelling

BINOMIAL EXPANSION
Partial fractions

RADIANS
Arc length
Area of sectors & segments
Trigonometry equations

TRIGONOMETRIC FUNCTIONS
Secant, cosecant, cotangent
Identities Inverse

TRIGONOMETRY & MODELLING
Addition formulae
Double-angle formulae
Identities

PARAMETRIC EQUATIONS
Using trig identities
Curve sketching
Points of intersection
Modelling

DIFFERENTIATION
Chain rule
Product rule
Quotient rule
Parametric
Implicit
Rates of change

Spring Term

NUMERICAL METHODS
Iteration Modelling
Newton-Raphson method

INTEGRATION
Reverse chain rule
By substitution
By parts Modelling
Trapezium rule

VECTORS
3D coordinates & vectors
Geometric problems
Application to mechanics

MOMENTS
Equilibrium Tilting
Centres of mass

REGRESSION, CORRELATION & HYPOTHESIS TESTING
Exponential models
Hypothesis testing for zero correlation

FORCES & FRICTION
Resolving forces
Inclined planes

CONDITIONAL PROBABILITY
Set notation
Venn diagrams
Probability formulae
Tree diagrams

Summer Term

PROJECTILES
Horizontal Vertical
Any angle
Projectile motion formulae

APPLICATIONS OF FORCES
Static particles
Modelling with statics
Friction and static particles
Static rigid bodies
Dynamics & inclined planes

NORMAL DISTRIBUTIONS
Probability & inverse
Approximating a binomial distribution
Hypothesis testing

FURTHER KINEMATICS
Vector methods
Variable acceleration in 1D
Differentiating vectors
Integrating vectors

STATISTICS

MECHANICS

PURE MATHEMATICS

TOP TIPS FOR PARENTS

- Use of exam style questions
- Ensure pupils have a Casio Calculator fx- 991EX Classwiz
- Purchase the Collins Edexcel A-Level revision workbook

ENRICHMENT

- Examsolutions.net
- HegartyMaths.co.uk
- Crashmaths.com
- Naikermaths.com
- UKMT challenge
- Edexcel past papers