



PARK HIGH SCHOOL

Mathematics

Exam Board: Edexcel

Course Specification: 9MA0

Qualification obtained: Pearson Edexcel Level 3 Advanced GCE in Mathematics

Lead Teacher: Miss Halai

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Subject Overview:

Students will study the Pearson Edexcel Level 3 Advanced GCE in Mathematics. It is split into two components, Pure and Applied, the latter of which consists of Statistics and Mechanics in an equal weighting.

Assessments are designed to reward students for demonstrating the ability to provide responses that draw together different areas of their knowledge, skills and understanding from across the full course.

Mathematical problem solving, argument, modelling language and proof are the overarching themes which should be applied along with associated mathematical thinking and understanding, across the whole of the detailed content. These overarching themes are inherent throughout the content and students are required to develop skills in working scientifically over the course of these qualifications.

Assessment percentage Exam: 100%

Progression Routes:

A-Level Mathematics allows students to develop various skills such as problem solving, analysing data, the ability to think logically and using and interpreting graphs. Mathematics can open many doors in terms of future opportunities and is a sought-after subject by many employers. As such, students can progress from this qualification into any further studies in Mathematics or a Mathematics-related subject such as Statistics, Physics, Engineering, Computer science, Economics, or Accounting and Finance.

Subject requirements:

- Grade 6 in Mathematics
- Grade 4 in English Language
- Grade 4 in English Literature

Complementary learning:

The subject is very diverse and therefore compliments many subjects.

Student Quote:

“My experience studying mathematics over the last year has enabled me to see how mathematical theories apply to day to day life, it has allowed me to comprehend and embrace a more statistical and logical way of thinking.”

Year 12

The course is split into two components, Pure and Applied, the latter of which consists of Statistics and Mechanics in an equal weighting.

Topics covered:

Pure:

- Algebraic expressions
- Quadratics
- Equations & inequalities
- Graphs & transformations
- Straight line graphs
- Circles
- Algebraic methods
- Binomial Expansion
- Trigonometric ratios
- Trig identities & equations
- Vectors
- Differentiation
- Integration
- Exponentials & Logarithms

Applied:

- Data Collection
- Location & Spread
- Representation of data
- Correlation & Linear
- Probability
- Statistical Distributions
- Hypothesis Testing
- Modelling in Mechanics
- Constant Acceleration
- Forces & Motion
- Variable Acceleration

Year 13

The course is split into two components, Pure and Applied, the latter of which consists of Statistics and Mechanics in an equal weighting.

Topics covered:

Pure:

- Algebraic methods
- Functions & Graphs
- Sequences & Series
- Binomial Expansion
- Radians
- Trigonometric functions
- Trigonometry & modelling
- Parametric equations
- Differentiation
- Numerical methods
- Integration
- Vectors

Applied:

- Regression, Correlation & Hypothesis Testing
- Conditional Probability
- Normal Distribution
- Moments
- Forces & Friction
- Projectiles
- Applications of Forces
- Further Kinematics

Assessment

Is 100% Exam.

Unit Code	Unit Title	Assessment Details	Weighting
9MA0/01	Pure Mathematics 1	Written Examination: 100 marks, 2hr	33.33%
9MA0/02	Pure Mathematics 2	Written Examination: 100 marks, 2hr	33.33%
9MA0/03	Statistics and Mechanics	Written Examination: 100 marks, 2hr	33.33%

Additional information

Course specific equipment:

FX-991EX advanced scientific calculator

FX-CG50 graphic calculator

Essential Reading Material:

Edexcel AS and A level Mathematics Pure Mathematics Year 1/AS Textbook ISBN: 978-1292183398

Edexcel AS and A level Mathematics Statistics & Mechanics Year 1/AS Textbook ISBN: 978-1292232539

Edexcel A level Mathematics Pure Mathematics Year 2 Textbook ISBN: 978-1292183404

Edexcel A level Mathematics Statistics & Mechanics Year 2 Textbook ISBN: 978-1446944073

Recommended resources:

<https://www.mymaths.co.uk/>

<https://undergroundmathematics.org/>

<https://www.stem.org.uk/alevel-maths>

<http://www.thechalkface.net/resources/alevel/>

http://furthermaths.org.uk/alevel_resources

<http://mathsbank.co.uk/>

<https://integralmaths.org/>

<https://mrbartonmaths.com/students/a-level/>

<https://www.khanacademy.org/>

<https://www.legendsoflearning.com>

<emaths.co.uk>

<nrich.maths.org>

Enrichment:

Exploring Mathematics at Royal Holloway University - no cost

Mathematics in Action: informative, engaging and interactive sessions, designed to complement the mathematics curriculum and inspire the students - costs approximately £23.50

UKMT Senior Challenge