

Subject: Mathematics and Further Mathematics

Exam Board: Edexcel

Course Number: Pearson Edexcel Level 3 Advanced GCE in Mathematics (9MA0)
Pearson Edexcel Level 3 Advanced GCE in Further Mathematics (9FM0)

Course Overview:

The Pearson Edexcel Level 3 Advanced GCE in Mathematics consists of three externally-examined papers and Further Mathematics consists of four externally-examined papers which build on the skills, knowledge and understanding set out in the whole GCSE subject content for mathematics and the subject content for GCE Mathematics qualifications.

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.

How is A Level Mathematics assessed?

Students are expected to:

- Use and apply standard techniques
- Reason, interpret and communicate mathematically
- Solve problems within mathematics and in other contexts

Unit Code	Unit Title	Guided Learning Hours	Term when will this be taught (2 yr course)	Assessment Details	Assessment Weighting
9MA0/01	Paper 1 Pure Mathematics	Three to four lessons per week and three to four hours independent study – home learning.	Year 1	2 hours 100 marks Any pure mathematics content can be assessed on either paper	33%
9MA0/02	Paper 2 Pure Mathematics	Three to four lessons per week and three to four hours independent study – home learning.	Year 2	2 hours 100 marks Any pure mathematics content can be assessed on either paper	33%

9MA0/03	Paper 3 Statistics and Mechanics	One to two lessons per week and one two hours of independent study – home learning.	Year 1 and 2	2 hours 100 marks Section A: Statistics (50 marks) Section B: Mechanics (50 marks)	33%
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How is A Level Further Mathematics assessed?

Unit Code	Unit Title	Guided Learning Hours	Term when will this be taught (2 yr course)	Assessment Details	Assessment Weighting
9MA0/01	Paper 1 Pure Mathematics	Three to four lessons per week and three to four hours independent study – home learning in the Autumn Term.	Year 1	2 hours 100 marks Any pure mathematics content can be assessed on either paper	33%
9MA0/02	Paper 2 Pure Mathematics	Three to four lessons per week and three to four hours independent study – home learning in the Spring and Summer Term.	Year 1	2 hours 100 marks Any pure mathematics content can be assessed on either paper	33%
9MA0/03	Paper 3 Statistics and Mechanics	One to two lessons per week and one two hours of independent study – home learning.	Year 1	2 hours 100 marks Section A: Statistics (50 marks) Section B: Mechanics (50 marks)	33%
9FM0/01	Paper 1 Core Pure Mathematics 1	Three to four lessons per week and three to four hours	Year 2	1 hour 30 minutes 80 marks	25%

		independent study – home learning in the Autumn Term.		Compulsory Any further pure mathematics content can be assessed on either paper	
9FM0/02	Paper 2 Core Pure Mathematics 2	Three to four lessons per week and three to four hours independent study – home learning – in the Spring term.	Year 2	1 hour 30 minutes 80 marks Compulsory Any further pure mathematics content can be assessed on either paper	25%
9FM0/3A	Paper 3 Further Mathematics Option 1	One to two lessons per week and one two hours of independent study – home learning.	Year 2	1 hour 30 minutes 80 marks Students take two optional papers with options available in: <ul style="list-style-type: none"> • Further Pure Mathematics • Further Statistics • Further Mechanics • Decision Mathematics Options to be confirmed at the end of year 1.	25%
9FM0/4A	Paper 4 Further Mathematics Option 2	One to two lessons per week and one two hours of independent study – home learning.	Year 2	1 hour 30 minutes 80 marks Students take two optional papers with options available in: <ul style="list-style-type: none"> • Further Pure Mathematics • Further Statistics • Further Mechanics • Decision Mathematics Options to be confirmed at the end of year 1.	25%

What can I do with this qualification / Post-18 progression opportunities / university subjects which this course supports:

Progression

Students can progress from this qualification to:

- a range of different, relevant academics or vocational higher education qualifications
- employment in a relevant sector
- further training.

Why offer further mathematics?

Further Mathematics is taught to challenge able students and prepare them for a degree in Mathematics or a Mathematics-related subject such as Statistics, Physics, Engineering, Computer science or Economics.

Other A Level Subjects which support academic attainment / complement learning

Physics, Chemistry, Biology, Economics, D&T, IT, Business Studies and Geography

Essential Textbooks

For A Level Mathematics:

- 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

For A Level Further Mathematics

- Edexcel AS and A level Further Mathematics Core Pure Mathematics Book 1/AS Textbook
 - ISBN: 978-1292183336
- Edexcel A level Further Mathematics Core Pure Mathematics Book 2 Textbook
 - ISBN: 978-1292183343
- Edexcel AS and A level Further Mathematics Further Statistics 1
 - ISBN: 978-1292183374
- Edexcel AS and A level Further Mathematics Further Pure 1
 - ISBN: 978-1292183350

Recommended supplementary resources- websites, blogs, journals:

<http://www.pearsonschoolsandfecolleges.co.uk/secondary/Mathematics/16plus/EdexcelASandAlevelMathematics2017/EdexcelASandAlevelMathematics2017.aspx>

<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>

Course specific equipment

- FX-991EX advanced scientific calculator

The ClassWiz FX-991EX advanced scientific calculator is a numeric calculator with all the functionality required by Ofqual.

- FX-CG50 graphic calculator (Required for Further Mathematics Only)

The FX-CG50 colour graphic calculator is a high-resolution, manipulative calculator.

Calculators can be purchased from Casio, Pearson or Amazon.

Out of lesson learning including trips and visits:

Enrichment Activities:

- 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 £1 per entry

Lead Teacher to contact:

Miss R Halai

Quotes from current students:

“The way in which the mathematics department help me understand topics are by letting me prove an equation rather than it being given to me.” **Sachin Bhanderi Year 12**

“The mathematics department provide a wide range of difficult questions such as STEP which helps to understand the topics in more depth.” **Shopitha Sivanathan Year 12**

“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.” **Nishil Patel Year 13**

“The mathematics department always pushes us to exceed our targets.” **Dhiran Halai Year 13**

“Park High provides a lot of support and resources to help the students to reach their full potential.” **Abhi Patel Year 13**