Tarporley Sixth Form College Further Mathematics A Level Programme of Study

Exam Board: Edexcel

Year 12

3 Exams – all equally weighted

2 Hours Each

100 Marks on Each Paper

Year 13

4 exams – all equally weighted

1.5 Hours Each

75 Marks on Each Paper

NAME:	
TARGET GRADE	
ASPIRATIONAL GRADE	

The 'Helicopter overview' of A Level Further Mathematics

In Year 12 you will complete the full A Level Course.
There are three papers each worth 100 marks and all are 2 hours long.
Papers 1 and 2 will assess Pure Content and Paper 3 will assess Applied Content (Mechanics and Statistics)

In Year 13 you will complete the A Level Further Maths Modules.
There are 4 modules which you will need to take. All are 1.5 hours long and are worth 75 marks each.
Papers 1 and 2 will assess Further Pure Content, Paper 3 will assess Further Statistics content and Paper 4 will assess Further Mechanics

Papers 1 and 2 1.5 Hours 75 Marks	Paper 3 1.5 Hours 75 Marks	Paper 4 1.5 Hours 75 Marks
AO1: 16 – 17.33% AO2: 9.33 – 10.67% AO3: 6 – 7.33%	AO1: 16 – 17.33% AO2: 9.33 – 10.67% AO3: 6 – 7.33%	AO1: 16 – 17.33% AO2: 5.67 - 7% AO3: 9.67 - 11%

Your Assessment Objectives:

OT1.1 Mathematical Argument, Language and Proof	Be able to use and interpret mathematical language in order to solve a given problem, and set work out in a logical manner.
OT1.2 Mathematical Problem Solving	Be able to break problems down into smaller, more manageable questions linking different mathematical topics together.
OT1.3 Mathematical Modelling	Be able to apply mathematical skills to a given context – being able to interpret what an answer means and whether it is sensible

Your Key Topics over the Course:

Year 12	Pure Mathematics and Applied Mathematics	• Proof • Algebra and Functions • Coordinate geometry in the (x, y) plane • Sequences and Series • Trigonometry • Exponentials and Logarithms • Differentiation • Integration • Numerical Methods • Vectors	Statistics • Statistical Sampling • Data Presentation and Interpretation • Probability • Statistical Distributions • Statistical Hypothesis Testing Mechanics • Quantities and Units in Mechanics • Kinematics • Forces and Newton's Laws • Moments
Year 13	Core Pure Mathematics (Paper 1 and 2)	• Proof • Complex Numbers • Matrices • Further Algebra and Functions	• Further Vectors • Polar Co-ordinates • Hyperbolic Functions • Differential Equations • Further Calculus
	Paper 3 – Further Statistics 1	• Discrete Probability Distributions • Poisson and Binomial Distributions • Geometric and Negative Binomial Distributions • Hypothesis Testing	• Central Limit Theorem • Chi Squared Tests • Probability Generating Functions • Quality of Tests
	Paper 4 – Further Mechanics 1	• Momentum and Impulse • Work, Energy and Power • Elastic Strings and Springs and Elastic Energy • Elastic Collisions in One Dimension	

How your course is structured:

Year 12	
- Algebra and Functions - Co-ordinate Geometry and Graphs - Differentiation - Integration - Binomial Expansion - Trigonometry - Exponentials and Logarithms - Vectors - Proof Statistics - Statistical Sampling - Probability - Data Presentation and Representation - Discrete Random Variables Mechanics - Motion in a Straight Line - Forces	Assessment 1: Overview of key GCSE Skills Assessment 2: Review of first 6 topics Assessment 3: Review of all topics covered this term Ongoing Assessments – After every topic you will have a homework assessment to complete
Christmas Holidays	
- More Integration - Functions - Sequences - Binomial Expansion - Numerical Methods - Vectors Statistics - Hypothesis Testing - Probability - Regression - Normal Distribution Mechanics - Kinematics (Projectiles) - Moments - Dynamics	Assessment 1: Review of first two topics plus topics from before Christmas Assessment 2: Full A Level Pure Paper Assessment 3: Applied Paper Ongoing Assessments – After every topic you will have a homework assessment to complete
Easter Holidays	
Revision of key topics ready for summer exams	Assessment: End of Year Exams Ongoing Assessments – After every topic you will have a homework assessment to complete
Summer Holidays	

Year 13	
• Matrices • Sums of Series • Proof • Complex Numbers • Hyperbolic Functions • Further Algebra and Functions Statistics • Discrete Probability Distributions • Poisson and Binomial Distributions • Geometric and Negative Binomial Distributions Mechanics • Momentum and Impulse • Work, Energy and Power	Assessment 1: Review of first two topics Assessment 2: Review of first six topics Assessment 3: Review of all work completed this term Ongoing Assessments **–** After every topic you will have a homework assessment to complete
Christmas Holidays	
• Differential Equations • Polar Co-ordinates • Further Calculus Statistics • Central Limit Theorem • Chi Squared Tests • Probability Generating Functions • Quality of Tests • Hypothesis Testing Mechanics • Elastic Strings and Springs and Elastic Energy • Elastic Collisions in One Dimension	Assessment 1: Recap of work completed before Christmas and first three topics Assessment 2: Review of applied topics Assessment 3: Mock Exams Ongoing Assessments **–** After every topic you will have a homework assessment to complete
Easter Holidays	
Revision and Preparation for Summer Examinations	External exams
Summer Holidays	

Top Study Tips:

Organise Your Files

Keep the content in a logical order. Organise your files so that all the pure content is together, and all the mechanics and statistics modules are together. Then split each of these according to topic – this makes it much easier to refer back to your notes when you are revising.

Practice, Practice, Practice

Complete all of the exercises from the book, look at specimen papers online to get used to the style of questions, use old A Level papers to practice your understanding. Make sure you practice everything and not just the topics you can already do!

Keep revisiting work and topics

Don't simply file away and forget. Routinely to go over last term / year's work. Re-do the end of unit assessments to make sure that you can get 100% on each one.