Tarporley Sixth Form College Mathematics A Level Programme of Study

Exam Board: Edexcel

3 Exams **–** all equally weighted

2 Hours Each

100 Marks on Each Paper

2 Pure Exams and 1 Applied

NAME:	
TARGET GRADE	
ASPIRATIONAL GRADE	

The 'Helicopter overview' of A Level Mathematics

Papers 1 and 2 will consist of 'Pure' Mathematics topics.
Paper 3 will consist of 'Applied' topics – Mechanics and Statistics

Each paper will assess all three assessment objectives, and overall the assessment objectives are spilt as follows:
AO1: 48 – 52%
AO2: 23 – 27%
AO3: 23 – 27%

Paper 1
2 Hours
100 Marks

Paper 2
2 Hours
100 Marks

Paper 3
2 Hours
100 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:

Papers 1 and 2	Pure Mathematics	• Proof • Algebra and Functions • Coordinate geometry in the (x, y) plane • Sequences and Series • Trigonometry • Exponentials and Logarithms • Differentiation • Integration • Numerical Methods • Vectors
Paper 3	Applied – Statistics and Mechanics	Section A: Statistics • Statistical Sampling • Data Presentation and Interpretation • Probability • Statistical Distributions • Statistical Hypothesis Testing Section B: Mechanics • Quantities and Units in Mechanics • Kinematics • Forces and **Newton's** Laws • Moments

How your course is structured:

Year 12
- Algebra and Functions   - Trigonometry   - Co-ordinate Geometry   - Further Algebra   - Differentiation   - Integration   - Exponentials and Logarithms   Assessment 1: Overview of key GCSE Skills Assessment 2: Algebra and Functions, Co-ordinate Geometry, Trigonometry, Further Algebra Assessment 3: Trigonometry, Further Algebra, Differentiation, Exponentials and Logarithms Ongoing Assessments **–** After every topic you will have a homework assessment to complete

Christmas Holidays
- Integration   - Vectors   Statistics   - Statistical Sampling   - Data Presentation and Representation   Mechanics   - Quantities and Units in Mechanics   - Kinematics 1 (Constant Acceleration)   **Forces and Newton's Laws**   Assessment 1: Differentiation, Trigonometry, Integration Assessment 2: Full Specimen Paper Assessment 3: Applied + Vectors, Exponentials and Logarithms, Algebra Ongoing Assessments **–** After every topic you will have a homework assessment to complete

Easter Holidays
Statistics   - Statistical Hypothesis Testing   - Probability   - Statistical Distributions   - Embed skills for end of year exams   - Algebraic and Partial Fractions   - Proof   Mechanics   **Forces and Newton's Laws**   - Kinematics 2 (Variable Acceleration)   Assessment 1: Applied + Differentiation, Integration, Trigonometry Assessment 2: End of Year Exams Ongoing Assessments **–** After every topic you will have a homework assessment to complete

Summer Holidays

Key topics you will need from GCSE:

There are a number of topics which appear at GCSE which you will to build upon in the A Level course. Most of these will appear in the first year of study and you will be expected to be able to complete these when we are teaching new A Level content

- Simple Algebraic Proof
- Indices
- Surds
- Drawing Graphs
- Simultaneous Equations
- Trigonometry

- Linear Graphs
- Factorising
- Completing the Square
- Using the quadratic formula
- Inequalities

Year 13	
• Trigonometry • Binomial Theorem • Sequences and Series • Vectors (3D)	• Functions and Modelling • Parametric Equations • Differentiation • Integration

Assessment 1: Recap of topics from last year
Assessment 2: Trigonometry, Sequences and Series
Assessment 3: Binomial Theorem, Vectors, Functions and Modelling, Trigonometry
Ongoing Assessments – After every topic you will have a homework assessment to complete

Christmas Holidays

Statistics • Regression and Correlation • Probability • Normal Distribution Timed exam practice	Mechanics • Moments • Forces at any angle • Applications of Kinematics • Applications of Forces • Further Kinematics

Assessment 1: Parametric Equations, Differentiation, Integration
Assessment 2: Applied + Numerical Methods, Differential Equations
Assessment 3: Mock Exams
Ongoing Assessments – After every topic you will have a homework assessment to complete

Easter Holidays

Revision for Papers 1, 2 and 3
• Timed exam practice
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.

Get help if you need it

Speak to your teacher if you are finding something challenging and come along to maths club after school every week.