MATHEMATICS

Course Information

The Mathematics Specification is a linear course with all examinations at the end of Year 13.

The Mathematics A Level, which started being taught in September 2017, reflects the style of the new GCSE course giving more emphasis to understanding, mathematical modelling and problem solving skills. The course covers three main areas; Pure Mathematics, Mechanics and Statistics and all three areas are included in the final examinations. Pure Mathematics is the foundation of methods and concepts, Mechanics is the study of forces and movement and Statistics covers probability and data handling.

More specifically, Pure Mathematics will cover proof, algebraic methods and functions, coordinate geometry in the (x,y) plane, sequences and series, trigonometry, exponentials and logarithms, differentiation, integration, numerical methods and vector applications within Pure Mathematics.

Mechanics will cover vectors used within displacement and velocity contexts, types of quantities and units, kinematics (movement maths), forces and Newton's laws and moments.

Statistics will cover statistical sampling, data presentation and interpretation, probability, statistical distributions and statistical hypothesis testing. Part of the Statistics content is being very familiar with a large data set provided by the examination board, and being able to clean, sort and perform calculations with this.

Students will be taking the Edexcel specification 9MA0.

The examinations consist of three, 2 hour long papers, each worth 100 marks and each contributing $33\frac{1}{3}$% of the final A level grade. The questions on all papers are a mix of question styles from short single mark questions to multi-step problems.

Paper 1 will cover any skills from the Pure Mathematics content.
Paper 2 will cover any skills from the Pure Mathematics content.
Paper 3 will cover any skills from the Mechanics and Statistics content.
All examinations are taken at the end of Year 13.

Entry Requirements

Students require a minimum of a grade 7 to study Mathematics as the course assumes good knowledge of 7, 8 and 9 work from GCSE.

Career Pathway

Mathematics underpins the study of any science, technology, engineering or mathematics subject within higher education and there are many degree courses for which it is a requirement.

Degree courses in Accounting and Finance, Automotive Engineering, Biology, Chemical Engineering, Chemistry, Civil Engineering, Economics, Economics and Management, Marine Engineering, Mathematics, Mechanical Engineering, Mechatronics, Medicine, Physics and Primary Teaching.

Studying Mathematics will also give a solid foundation for apprenticeships within technology and engineering, as well as employment in financial, engineering and technology companies.

Should you like to receive any additional information on this course please contact Mrs Jen Wells – Head of Department