Mathematics and Further Mathematics A Level

Overview

The Mathematics staff at Queen's College are highly experienced and utilise both traditional and modern approaches in their teaching. Students are encouraged to problem solve both individually and in groups, developing knowledge previously learnt at GCSE, as well as introducing many completely new and interesting concepts. You have the option to choose whether you would like to study Mathematics A Level, or the combined Mathematics and Further Mathematics A Level courses. If you choose the latter option this will take up two of your option blocks, but typically we cover the content of A Level Mathematics in Year 12, and the A Level Further Mathematics content in Year 13.

Why Study

All areas of the Mathematics and Further Mathematics A Levels can be used in a broad range of future areas. The study of Pure Mathematics allows greater understanding of the world around us, providing the language needed for many careers as well as allowing you to develop skills to model and understand every day, real world situations. The Mechanical aspects of the course allow you to appreciate fully the forces and concepts around us, whilst the Statistical aspects of the course can help you to model predictions for the future in anything from information about a cohort to the number of checkouts required in a supermarket at peak service time. Mathematics really does set you up for so many different aspects of life, and having a background in Mathematics can help support any future choices for study or careers. Many university courses look favourably on an A Level in Mathematics, and some courses outside of Mathematics have it as a specific requirement.

Course Overview

We follow the Pearson Edexcel course for A Level, as it provides a rich and exciting array of different topics. This is extensive so I will not provide a full topic list here, however these would include algebraic methods, trigonometry, differentiation and integration for Pure Mathematics, mathematical modelling and statistical analysis for Statistics and moments, application of forces, projectiles and kinematics for Mechanics. Both A Levels are fully assessed by examination at the end of Year 13. Mathematics consists of three equally weighted exams. Further Mathematics has a requirement of two Pure exams and two applied exams which are all equally weighted, but we teach and take exams in Statistics, Mechanics and Decision Mathematics where the best two overall scores are used towards your final grade.

Progression

Some of the most interesting and well-paid careers revolve around Mathematics. Careers in Finance, Medicine, Engineering, and Business are all open to people with a background in Mathematics, as are careers in technology — Mathematics being at the very core of all new technological developments. It is also worth considering careers where Mathematics is not so obviously used, for example consider conservation where the modelling of species growth and decay is vital, or the necessity to calculate accurately the wind speed and direction as an Airline Pilot, the opportunities are endless.

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