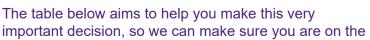# A level Mathematics

Mathematics or Statistics - which is the right course for you?

A level Mathematics and A level Statistics are both outstanding courses, but which one would suit you and your career ambitions best?

Mathematics is heavily based on strong skills in algebra and trigonometry at GCSE, whereas Statistics relies on a lot of analysis of data. Many people underestimate the important role that Statistics has in many aspects of Business and Medicine.

The table below aims to help you make this very important decision, so we can make sure you are on the correct programme of study. Some of the progression routes after A level are detailed below, but if your career path is not featured, you can always ask for advice when you come into College for your interview. This is a general guide, so please check individual University entrance requirements for your intended course.

A level Statistics	A level Mathematics
Medicine – If you are thinking of applying to study Medicine, A level Statistics may be a more helpful option than A level Maths, especially if you have chosen Chemistry and Biology. An understanding and ability to analyse statistics is of great benefit to a career in Medicine.	**Engineering** – if you want to pursue a degree in Engineering after you finish your A levels, you need to make sure that one of the courses you choose is A level Maths. Most universities will ask for Maths.
Dentistry – If you want to pursue a career in Dentistry, A level Statistics may be a more useful course than A level Maths, especially if you have chosen Chemistry and Biology.	**Further Maths** – if you want to do A level Further Maths, you must pick A level Mathematics, rather than A level Statistics to study alongside it. The Mathematics course includes advanced algebra, calculus and trigonometry, which will prepare you for the Further Maths course.
Veterinary Science – Like Medicine and Dentistry, if you are thinking of applying to study Veterinary Science, A level Statistics is a brilliant support to the required subjects of Biology and Chemistry.	**Physics** – if you want to study A level Physics, you must also choose A level Mathematics. This is because there is a lot of Maths in the Physics syllabus and a high level of maths understanding is needed for you to succeed on the course.
Pharmacy – Statistical analysis is a fundamental skill needed by all pharmacists. As a result, choosing A level Statistics is highly recommended for students wanting to enter this field and considered a better fit than A level Mathematics.	**Computer Science** – Some Universities will stipulate A Level Mathematics, but a lot do not, so Statistics is a good choice if you find some aspects of algebra challenging and enjoy working more numerically especially with data.
Statistics is an excellent combination with Geography, Psychology, Business Studies, Economics, Biology, Chemistry, Accounting, Physical Education or any social science or humanities course.	**Economics** – Some Universities will stipulate A Level Mathematics, but a lot do not, so Statistics is a good choice if you find some aspects of algebra challenging and enjoy working more numerically especially with data.
To study Statistics at University you will need A Level Mathematics, because of the high level of algebra content at degree level and often requires As or A*.	

Topics in Mathematics and Statistics

As well as seeing the progression options that our A level Mathematics and A level Statistics courses can lead to, it's important to understand the sort of topics each course includes so you can make a judgement of which course will suit you best. The next two pages go into more detail about the A level Mathematics specification, but the summary of each course below should provide a helpful comparison.

A level Mathematics Summary

This course includes Pure Maths and will see students solving equations, graphs and transformations. Advanced mathematics not covered in GCSE Maths is introduced to learners, including algebra, calculus and trigonometry. Some Mechanics and statistical models are studied, with forces, moments and friction lending support to the study of Physics in particular.

A level Statistics Summary

This course builds on the work already studied in GCSE Mathematics far more easily than A level Maths, as students will already have been introduced to numerical measures of mean, median and mode. Topics which appear in subjects like Biology, Psychology, Geography and Medicine are also covered in the course, including Chi-squared Contingency Tables, Spearman's Rank Correlation Coefficient, and the Wilcoxon tests. This makes Statistics a particularly good supporting subject. Real-world applications of statistics in industry and manufacturing also develop skills that are of use to a variety of future careers.

Please also take time to read the detailed course information on the A level Statistics course before deciding which course to study.

We monitor student progress very carefully and we offer a range of support to help the transition from GCSE to A Level.   In some instances, we might consider offering Statistics to those who are finding aspects of Mathematics more challenging and where Statistics might be more beneficial to their progression and future aspirations. We would usually approach students in this situation during the first term.