Technical learning with local professional partners

QEStudio

Subject Details

Mathematics

The ability to think mathematically and to use mathematical techniques to solve problems is one of the key skills that underlie much of modern life. It is the only language shared by all human beings regardless of culture, religion or gender. For example pi is still 3.14159……, whichever country you come from. Very few people (if any), are literate in all the world's languages (English, French, Spanish, Arabic, Chinese etc) but the shared language of mathematics connects us with people across continents and through time. It links us with ancient Greek and Egyptian scholars, mediaeval merchants, astronauts, engineers, peasants and politicians.

It is with this universal language that we can explain mysteries of the universe or the secrets of DNA. We can understand the forces of planetary motion, build computers and transfer information across the globe. In short, the best part of having a mathematics background is that it helps you make a difference to other people's lives on a daily basis. It is also a fascinating and most enjoyable subject in its own right.

What will you be learning?

The A level Mathematics course covers three areas of study: Pure Mathematics, Statistics and Mechanics

Pure maths supports of all other branches of mathematics. A level builds on the techniques and knowledge gained at GCSE. Students extend their understanding and use of algebra, graphs and trigonometry and are introduced to many new areas of maths including calculus.

Statistics is an applied maths course. Students learn how to analyse and summarise large sets of real data, test hypotheses and arrive at conclusions using more rigorous techniques than met at GCSE. They learn to reason and select appropriate probability distributions to model contexts and use calculator technology to compute summary data and access probabilities from standard distributions. Statisticians pursue a variety of careers including chemistry, genetics, computer science, sociology, politics, veterinary science

Mechanics is an applied course. Students learn how to describe mathematically the motion of objects and how they respond to forces acting on them. Mathematical modelling is used to analyse and predict the movement of objects in two and three dimensions. Mechanics is an important preparation for courses in engineering, cybernetics, robotics, biomechanics and sports science.

What are lessons like?

"It's certainly challenging yet the lessons are always fun and are very interesting. It is important however to keep on top of the workload as the jump from GCSE is one of the biggest but it is rewarding"

"Maths is a great subject to take. The work in class is very interesting but there is a lot of homework. It's better than GCSE……"

What can it lead to?

An A-Level Mathematics student will be equipped to study many and varied courses at university including engineering, physical sciences, medicine, computing, electronics, economics, sports science and many more Further career opportunities include finance, accountancy and business management. Mathematics is a well-regarded passport to an enormous range of courses and careers as it demonstrates an ability to solve problems requiring a high level of clear, logical thinking and reasoning.

Want to know more?

To find out more about the course and discuss your suitability please contact J.Sherry@qes.org.uk