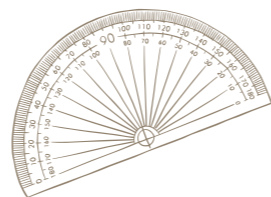




MATHEMATICS, FURTHER MATHEMATICS



HEAD OF DEPARTMENT: MR BUTTERWORTH

EXAMINATION BOARD: EDEXCEL
SPECIFICATION: MATHEMATICS
QUALIFICATION: A-LEVEL

EXAMINATION BOARD: EDEXCEL
SPECIFICATION: FURTHER MATHEMATICS
QUALIFICATION: AS OR A-LEVEL

Truro School has an excellent track record of exam success both for Mathematics and Further Mathematics. Take advantage of purposely designed small class sizes, enrichment opportunities and personalised support from skilled Mathematics teachers who are on hand to get you the best grade possible.

COURSE DETAILS

The Mathematics staff are very aware of personal ability and will push, or support, to get the best result possible, helping the individual to find strategies that work for them. Beyond lessons there is endless support from the entire Department with daily clinics, where one-to-one assistance is always available to help solve those stubborn problems; no question is too stupid! If you are doing other science A-Levels or Economics A-Level, Mathematics will complement this subject combination, giving you the ability to think logically and analyse data, a useful skill both at school and university!

LIZZIE

Truro School's A-Level course has been designed to feature a greater emphasis on using maths in practical situations. The course covers pure (core) maths, mechanics and statistics.

When studying pure mathematics you will be advancing your knowledge of topics such as algebra, differentiation and trigonometry as well as meeting some new ideas like integration. If you enjoy the challenge of problem solving, then you should find the content of this course very appealing. Interesting in their own right, the ideas met in pure mathematics are also vital tools in the study of other branches of mathematics.

Mechanics looks at the interconnection of forces and motion and allows us to model the movement of objects. This includes the motion of everyday items right through to satellites orbiting a planet. The technique of mathematical modelling, turning a complicated

physical problem into a simpler one that can be manipulated using the skills learnt in pure mathematics, is essential for our understanding of the world around us. Many of the ideas that are met in the course are clearly important in the further study of Engineering and Physics but are also fundamental to subjects such as Oceanography, Robotics, Biomechanics and Sports Science. It is not necessary to study Physics to master and enjoy mechanics in Mathematics.

Statistical techniques allow us to summarise numerical data and then analyse it in order to arrive at conclusions about underlying trends and properties. Again the idea of mathematical modelling is fundamental and will provide many useful transferable skills. Much of this topic will be learnt through studying a large data set provided by the exam board which will provide students with a more realistic idea of how maths can be applied in the real world.

FURTHER MATHEMATICS

Either a full A-Level or an AS is also available in Further Mathematics if you are studying Mathematics at A-Level. A full A-Level requires two years of study, but the AS can be started in the Lower Sixth or at the beginning of the Upper Sixth. We can be quite flexible with this course to suit your individual needs, so talk to Mr Butterworth if you need clarification.

Further mathematicians will go into greater depth in all the areas outlined above and will also study decision mathematics, which will show you how to solve problems using networks, including the use of critical path analysis. Ideas from this module have many important applications to such differing problems as the design of circuits on microchips to the scheduling of tasks required to build a new supermarket.



UKMT SENIOR MATHS CHALLENGE

The UKMT Senior Maths Challenge is always held in November and sat by tens of thousands of students around the country. It is a genuine challenge of your ability to use fairly straightforward maths to solve unusual and often tricky problems – fun! The only preparation is to learn to really think and those who do

well go on to extra rounds, which can lead ultimately to selection for the British Maths Olympiad Team.

Each year a team of four students is entered into the Team Challenge, which always proves to be a fun and interesting competition.



WHAT IS AN A-LEVEL IN MATHEMATICS USEFUL FOR?

A-Level Mathematics is a requirement for degrees in most Science subjects, particularly Engineering, Physics and Chemistry. A pure Mathematics Degree would most likely require an A-Level in Further Mathematics as well. Mathematics Degrees do not have to lead to careers in mathematics and science as an A-Level in Mathematics opens doors to many careers whilst closing none.

Mathematics is regarded as a strong academic indicator by both universities and employers. It is also highly sought after for degrees in Economics, Computer Science and Psychology. Truro School Mathematicians have previously gone on to prestigious universities including the University of Cambridge, University of Oxford, UCL and Imperial College London to study Mathematics, Engineering, Economics, Physics, Medicine, Computer Science and Geography.