MATHEMATICS: INTENT

Our whole school curriculum is designed to provide all our students with the core knowledge and foundation that prepares each of them to be successful in life. Within the mathematics department we aim to maximise their cognitive development, to develop the whole person and the talents of the individual so that students at ECSfG become active, confident, thoughtful and economically self-sufficient citizens. We teach our students how to think, criticise, problem solve, and be active, rather than passive recipients of information. We believe all students should be taught the full curriculum alongside making links to real life at every opportunity, which compliments the rich and balanced curriculum offered within the school.

The programme of study at Key Stage 3 builds on Key Stage 2 to develop mathematical reasoning and competence in solving everyday problems. Our Year 7 scheme is aimed at developing deeper understanding of the core mathematical principles. Students will be primarily focused on solidifying and deepening their number skills, whilst being introduced to statistics, basic algebra and line & angle geometry. The curriculum is continued into Year 8 where students extend their understanding of algebra, statistics and shape geometry, and are also introduced to ratio, proportion and rates of change in preparation for the beginning of the GCSE course. By both running annual STEM trips to Thorpe Park and frequently participating in the UK Mathematics Challenges we are able to regularly bring the curriculum alive for our students to enjoy.

Our Key Stage 3 scheme of work provides students with the foundation and secure understanding necessary to successfully make the transition into their Key Stage 4 studies. In delivering the Key Stage 4 curriculum from Year 9 teachers carefully plan their time in order to cover and fully consolidate the curriculum to a deep and secure level. In all our lessons you will typically see students grappling with challenging content and teachers skilfully providing the necessary support for students, whilst they are attempting to tackle the demanding content. The ultimate aim is for all students to be able to break the problem into the required steps and make the essential links needed in solving the problems that they are faced with. A deep conceptual understanding of the whole curriculum and how it all fits together is at the very heart of the delivery of our curriculum.
We are particularly conscious of the role that literacy and vocabulary plays in unlocking the new mathematics curriculum. Our teachers explicitly teach the meaning of subject-specific language and we expect all lessons to contain challenging reading and writing. This approach enables students to develop their understanding of key concepts outside of their lessons. The mathematics curriculum for each topic is divided into individual units, each containing a discrete body of knowledge and objectives. At the end of each unit, knowledge and understanding is assessed through formal written assessments.

With regards to our Key Stage 5 curriculum we work hard to ensure that students understand that mathematics is a versatile qualification, well-respected by employers and is a facilitating subject for entry to higher education. They are all aware that careers for people with good mathematical skills and qualifications are not only well paid, but they are often interesting and rewarding. People who have studied mathematics to A level standard are in the fortunate position of having an excellent choice of careers.

Students at ECSfG understand that many employers highly value A level mathematics as students become better at thinking logically and analytically. Through solving problems, they develop resilience and are able to think creatively and strategically. The writing of structured solutions, proof and justification of results helps them to formulate reasoned arguments. Students develop excellent numeracy skills and an ability to process and interpret data. Progression from A level has seen our students go on to study a variety of undergraduate degrees and we are proud that they have been able to break the stereo types connected with girls not being able to pursue studies and careers associated with mathematics, science and engineering.

At ECSfG we believe that every child has an equal right to a challenging and enlightening curriculum. By teaching our mathematics curriculum effectively and carefully guiding our students, we aim to bring out the best in all of them. These high expectations are reflected in the outcomes that our students achieve over time which are comfortably above the national average both in terms of the consistently positive Progress 8 scores gained over time and the ALPS Grade 3 indicator.