SDCC Mathematics Year 12 A-level

Course Information

Students are following the new MEI A-level course. Two AS Examinations will take place this year:
Pure Mathematics and Mechanics: 1 hour 30 minutes 70 marks (50%)
Pure Mathematics and Statistics: 1 hour 30 minutes 70 marks (50%)
Grades available: A, B, C, D, E
AS examinations do not contribute towards an A-level award but will be indicative of likely A-level grade.

Initial assessment of readiness for course will take after two week's teaching. Additional assessments will take place at the end of every chapter. A mock exam will take place during the second week of December. This will help decide whether students should be aiming for a full A-level over two years or an AS at the end of year 12. Further mocks will take place around Easter. Emphasis throughout the course will be on problem solving and proof.

Term One - What will we be learning?

Pure Mathematics	**Applied Mathematics (Statistics and Mechanics)**
Logarithms & Exponentials	Data Collection
Surds & Indices	Data Presentation, Processing & Interpretation
Coordinate Geometry	Kinematics
Differentiation	
Trigonometry	

Term Two - What will we be learning?

Pure Mathematics	**Applied Mathematics (Statistics and Mechanics)**
Integration	Probability
Quadratic functions	Binomial expansion & distribution (including)
Equations & Inequalities	Variable acceleration

Term Three - What will we be learning?

Pure Mathematics	**Applied Mathematics (Statistics and Mechanics)**
Further proof	Forces & Newton's Laws of Motion
Polynomials	Binomial Hypothesis testing
Graphs & Transformation	
Vectors	
Further trigonometry	Complete AS course
Sequences and series	Revision and Exams

How will we be learning?

Teaching and learning will focus on problem solving, with use of technology a key requirement. Our aim is that teaching is student led using inquiry and investigation to foster independent learners with a passion for maths. We endeavour to develop the intellectual maturity of our students to enable them to take risks and overcome the challenges that they encounter. Home learning is set weekly to consolidate and extend the learning in class. Students must also consolidate their learning by writing up their notes, completing class work and reading further into a topic.

Try this at home

- **Textbook** Students will be required to purchase course textbooks. These are available as either hard copies or e-books.
- **Integral:** Make sure you know your username and password to access additional resources, revision aids and practice tests and exam papers.
- Download and use Geogebra APP on smartphones, tablets or laptops
- MyMaths: Many of the topics in year 12 are covered in MyMaths
- **Practise basic skills** regularly. It's important that your algebra skills are solid as is your use of surds and powers.
- **Research** real life applications of topics taught e.g. Who uses Calculus? Hypothesis testing?
- **Visit** www.examsolutions.net for videos explaining certain topics