Ifield Community College
Mathematics Department

Head of Department: MFO
Key Stage Co-ordinators: DKI, OPE
Teachers: LDA, SDA, DGA, LRA, HRI, TST, ATU

Year 11 Foundation Curriculum Overview **Subject: Mathematics**

Year 11 Overview:

In year 11 students build towards the final exam in Summer. Students are retrieving knowledge and skills learnt prior and apply to GCSE multi-concept problems. Mock exams take place near Christmas

Autumn Term

Outline of Key Learning	Unit Code
Rearranging equations a. Change the subject of a formula involving the use of square roots and squares b. Answer 'show that' questions using consecutive integers (n, n + 1), squares a^2, b^2, even numbers 2n, and odd numbers 2n +1	20
Graphs a. Solve problems involving inverse proportion using graphs, and read values from graphs b. Find the equation of the line through two given points c. Recognise, sketch and interpret graphs of simple cubic functions d. Write simultaneous equations to represent a situation e. Solve simultaneous equations (linear/linear) algebraically and graphically	20
Probability a. Write probabilities in words or fractions, decimals and percentages b. List all outcomes for single events systematically c. Work out probabilities from frequency tables and from two-way tables d. Find a missing probability from a list or table including algebraic terms e. Work out probabilities from Venn diagrams f. Use union and intersection notation g. Compare experimental data and theoretical probabilities h. Use tree diagrams to calculate the probability of two independent events	13a 13b

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Spring Term	
Outline of Key Learning	**Unit Code**
Construction and Loci a. Use straight edge and a pair of compasses to do standard constructions b. Draw and construct diagrams from given instructions c. Use constructions to solve loci problems (2D only) d. Use and interpret maps and scale drawings e. Make an accurate scale drawing from a diagram f. Use three-figure bearings to specify direction g. Mark on a diagram the position of point B given its bearing from point A	15b
Circles, cylinders, cones & Spheres a. Recall and use formulae for the circumference of a circle and the area enclosed by a circle circumference of a circle = $2\pi r = \pi d$, area of a circle = πr^2 b. Find radius or diameter, given area or perimeter of a circles c. Find the perimeters and areas of semicircles and quarter-circles d. Calculate perimeters and areas of composite shapes made from circles and parts of circles e. Calculate arc lengths, angles and areas of sectors of circles f. Find the surface area of a cylinder g. Find the volume of a cylinder h. Find the surface area and volume of spheres, pyramids, cones and composite solids	17
Vectors a. Understand and use column notation in relation to vectors b. Identify two column vectors which are parallel c. Calculate using column vectors, and represent graphically, the sum of two vectors, the difference of two vectors and a scalar multiple of a vector	19b

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Summer Term	
The examination for this course is in this term. Paper 1, which is non-calculator is near the end of May. Papers 2 and 3 are calculator papers. Students will have completed at least 1 mock as well as several past papers and these highlight areas to improve as well as improving exam technique.	
Outline of Key Learning	**Unit Code**
Exam technique & practice a. Revisit prior knowledge and apply to exam questions. b. Reflect on areas of weakness and improve them	ALL