

Landau Learner Curriculum Overview

Subject: Mathematics

Director of Learning: Mr R Bathew

Year: 12

Curriculum organisation				
Students are taught in mixed ability by two learning tutors for the equivalent of 10 single lessons per fortnight.				
What topics will students be studying this year? Includes links to National Curriculum, Curriculum Intent and Prior Related Learning*				
Term 1:	Term 2:	Term 3:	Term 4:	Term 5:
Pure: <ul style="list-style-type: none"> Quadratics and cubics Curve sketching Graph transformations Equations of straight lines Differentiation 	Pure: <ul style="list-style-type: none"> Equations of circles Integration Vectors Statistics: <ul style="list-style-type: none"> Population and samples Histograms, averages Standard deviation and variance Mechanics: <ul style="list-style-type: none"> Displacement-time graphs Velocity-time graphs Constant acceleration formulae 	Statistics: <ul style="list-style-type: none"> Regression lines Probability Venn diagrams/two-way tables Mechanics: <ul style="list-style-type: none"> Non-uniform acceleration Resultant forces and equilibrium Newton's Laws of Motion Connected particles Pegs and pulleys 	Pure: <ul style="list-style-type: none"> Binomial expansion Trigonometric identities Transformation of trigonometric functions Solving trigonometric equations Exponentials and logarithms Proof Statistics: <ul style="list-style-type: none"> Discrete random variables Cumulative probability distribution Binomial distribution Binomial probability distribution Binomial cumulative probability distribution Hypothesis testing, significance tests and critical regions 	Pure: <ul style="list-style-type: none"> Arithmetic, geometric and other types of sequences Mappings and functions Composite functions Inverse functions Modulus Transformation of graphs

Equipment needed for sessions:	What can you do to support your child?
<ul style="list-style-type: none"> Mathematics exercise book Mathematics textbook Scientific calculator with statistical tables lookup function, e.g. ClassWiz 	<ul style="list-style-type: none"> Encourage them to complete the homework tasks they are set by their Maths tutors to a high standard, asking them to show you the finished work.

How will learning be assessed and progress measured?	Extension and enrichment activities:
<ul style="list-style-type: none"> Algebra baseline assessment Marking of written is carried out on a regular basis in line with the College policy Regular class tests when students have covered a topic End of year summative assessment Regular peer and self-marking 	<ul style="list-style-type: none"> Post-16 Maths Clinic – every Tuesday Senior Mathematical Challenge / Senior Team Maths Challenge Mathsbombe Puzzle of the Week ERNI mentoring of younger students