

Westfield Academy - Curriculum Information

Building on GCSE Mathematics, your child will develop their understanding of applied mathematics through the study of Statistics and Mechanics at A Level. In Statistics, they will learn how to collect, organise and analyse data, including measures of location and spread, data representation, correlation, probability and statistical distributions, before progressing to hypothesis testing. In Mechanics, students will explore how mathematics can be used to model real-world motion and forces, including constant and variable acceleration, developing an understanding of kinematics and Newton's laws. They will strengthen their ability to interpret results, apply mathematical models to contextual problems and communicate their reasoning clearly and logically. Throughout the course, students will regularly consolidate their learning through review and exam paper practice, building confidence, accuracy and independence in preparation for A Level assessments and future progression, including UCAS applications.

Maths

Head of Department	C. Okemadu	
Head of Department email	cho@westfield.academy	
Lessons per 2 week cycle	3	
Specification/Board details/Key stage	Edexcel	

Term by term

Autumn 1	Autumn 2	Spring 1
	Data Collection Measure of location and spread Representation of data Correlation	Probability Statistical distributions
Spring 2	Summer 1	Summer 2
Hypothesis testing Review	Introduction to Mechanics Constant Acceleration Forces and Motion Variable Acceleration Review Exam Paper Practice	UCAS

Key Skills developed	
Useful Websites	https://my.integralmaths.org/integral/core/login/index.php https://corbettmaths.com/ https://mathsgenie.co.uk/ https://www.mathslinks.co.uk/
Reading/Literacy requirements /Key Words	Population Census Sample Outlier Sampling frame Sampling fraction Bias Sample error Random variable Parameter Categorical Ranked Discrete Continuous Bivariate Probability Estimating Experimental Theoretical Certainty Expectation Hypothesis Significance Critical values Critical regions Asymmetric Direction Scalar Vector Distance Position Displacement Speed Velocity Acceleration
Homework requirements	Four times times a week
Personal Development Links	https://www.mathslinks.co.uk/

Trips/Visits (If applicable)	<p>Robotic Project: The mission is to develop future Space scientists and AI Engineers. We joined the National Robotics & STEM Project, organised by First Tech Challenge UK and Ireland (https://firstuk.org/), designed to equip our students with hands-on experience in engineering, coding, problem-solving, teamwork, and innovation.</p> <p>UKMT Challenge: The mission is to develop confident, high-level mathematical thinkers through participation in the nationally recognised UK Mathematics Trust Challenge. This prestigious national competition attracts students from schools across the UK, providing an opportunity to compete at a recognised national standard.</p> <p>Students tackle rigorous, non-routine problems that strengthen logical reasoning, precision, and resilience under timed conditions, raising aspirations and celebrating mathematical excellence.</p>
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