Algebra and functions indices and surds, quadratic functions, simultaneous equations, inequalities, polynomials, graphs and graph transformations

Coordinate geometry in the (x,y) plane straight lines, quadratics, circles

Sequences and Series binomial expansion (integer power) and link to binomial probabilities

Trigonometry sine and cosine rule, $sin^2 + cos^2 = 1$, solve simple trigonometric equations

Exponentials and logarithms a^x and e^x, derivative of e^{kx}, $\log_a x$ and $\ln x$, laws of logarithms

Differentiation first and second derivatives of x^n, gradient, tangent, normal, stationary points

Integration fundamental theorem of calculus, integrate $x^n, n \neq -1$, area under a curve

Data presentation and interpretation histograms, probability distributions, scatter diagrams, regression and informal interpretation of correlation, averages, standard deviation

Probability mutually exclusive and independent events, discrete and continuous distributions,

Statistical distributions - binomial distribution only

Kinematics position displacement, distance, velocity, speed, acceleration, velocity/time graphs, SUVAT equations in a straight line with constant acceleration, use of calculus in kinematics for motion in a straight line with variable acceleration

Forces and Newton's laws force, Newton's first law, Newton's second law for motion in a straight line, Newtons' third law, pulleys and connected particles

Mechanics dynamics, energy, momentum

Mechanical properties of matter stress, strain, Young's modulus, force-extension, energy stores

Electric circuits current, emf and pd, resistance, DC circuits

Waves polarisation, diffraction, interference, superposition and stationary waves