**SPECIFICATION OVERVIEW**

**AQA A-LEVEL FURTHER MATHEMATICS 7367**

**SUBJECT CONTENT**

**1 Mathematical argument, language and proof**

1.2 Mathematical problem solving

1.3 Mathematical modelling

**2 Compulsory content**

2.1 Proof

2.2 Complex numbers

2.3 Matrices

2.4 Further algebra and functions

2.5 Further calculus

2.6 Further vectors

2.7 Polar coordinates

2.8 Hyperbolic functions

2.9 Differential equations

2.10 Numerical methods

**3 Optional application 1 – mechanics**

3.1 Dimensional analysis

3.2 Momentum and collisions

3.3 Work, energy and power

3.4 Circular motion

3.5 Centres of mass and moments

**4 Optional application 2 – statistics**

4.1 Discrete random variables (DRVs) and expectation

4.2 Poisson distribution

4.3 Type I and Type II errors

4.4 Continuous random variables (CRVs)

4.5 Chi squared tests for association

4.6 Exponential distribution

4.7 Inference – one sample *t* - distribution

4.8 Confidence Intervals

**5 Optional application 3 – discrete mathematics**

5.1 Graphs

5.2 Networks

5.3 Network flows

5.4 Linear programming

5.5 Critical path analysis

5.6 Game theory for zero-sum games

5.7 Binary operations

**ASSESSMENTS**







