



# Sandwell Academy

## Advanced General Certificate of Education MATHEMATICS

### WHY MATHEMATICS?

Mathematics is essential to the society we live in. It provides a language for the sciences and underpins our economy. It is impossible to operate the financial markets, the construction industry and the world of ICT without it. The opportunities for students of Mathematics, on completion of full-time education, are enormous. It complements and supports other courses, for example, Physics, Chemistry, Design Technology, Psychology and Business Studies. Qualifications in Mathematics are acceptable as an entry to many different careers.

### WHERE WILL IT LEAD?

Mathematics students at Sandwell Academy will be preparing to move into Higher Education courses and careers in the following fields:

Electronic Engineering	Research Chemistry
Computer Science	Pharmacy
Medicine	Forensic Science
Business Administration	Aeronautics
Accountancy	Mechanical Engineering
Civil Engineering	Actuarial Work
Economics	Psychology
Trading Standards	

The Mathematics AGCE course offered at Sandwell Academy is designed to provide academic and vocational experiences. It will prepare students for their choice in both the world of work and Higher Education.

### SPECIFIC ENTRY REQUIREMENTS

- Grade 7 in GCSE Mathematics

## COURSE DETAILS

**Mathematics** Edexcel Syllabus: 9MA0

Students will undertake this two-year course studying a combination of Pure Mathematics, Mechanics and Statistics before taking three examinations at the end of the course.

### Subject Content include:

A: Proof  
B: Algebra and Functions  
C: Coordinate Geometry  
D: Sequences and Series  
E: Trigonometry  
F: Exponential and Logarithms  
G: Differentiation  
H: Integration  
I: Numerical methods  
J: Vectors  
K: Statistical Sampling  
L: Data Presentation and Interpretation  
M: Probability  
N: Statistical Distribution  
O: Statistical Hypothesis Testing  
P: Quantities and Units in Mechanics  
Q: Kinematics  
R: Forces and Newton's Law  
S: Moments

### Examination Details:

	Paper 1	Paper 2	Paper 3
Content	Topics from A to J	Topics from A to J	Topics from K to S
Time	2 hours	2 hours	2 hours
Total Marks	100	100	100
Weight	$33\frac{1}{3}\%$ of A-level	$33\frac{1}{3}\%$ of A-level	$33\frac{1}{3}\%$ of A-level

