



# Brigidine School Windsor

## MATHEMATICS

### **Overview**

Mathematics is about *pattern and structure*; it is about logical analysis, deduction, calculation within these patterns and structures. When patterns are found, often in widely different areas of science and technology, the mathematics of these patterns can be used to explain and control natural happenings and situations. Mathematics has a pervasive influence on our everyday lives, and contributes to the wealth of the country.

Mathematics is the language of the universe. Much of modern theoretical physics is mathematics. Quantum Theory or Relativity are mathematical theories that attempt to explain the laws of the universe. Of course relativity can be summarised in the one mathematical formula that almost everyone knows  $E = mc^2$ .

Mathematics, and numbers in particular, may be the one thing that we are likely to have in common with any life out in the universe.

### **Prerequisite**

Enthusiasm for the subject and at least a C grade at GCSE Higher tier.

### **Skills**

- to use logical thought,
- to formulate a problem in a way which allows for computation and decision,
- to make deductions from assumption,
- to use advanced concepts,
- problem solving, logic and analytical skills;
- resourcefulness and creativity in analysing a huge variety of situations;
- the ability to learn and adapt to new developments.

### **Assessment**

There are 3 AS Modules:- Pure Core 1, Pure Core 2 and Statistics 1; and there are 3 AS Modules:- Pure Core 3, Pure Core 4 and Statistics 2.

All modules are weighted at 16.7% of an A Level(33.3% of an AS). Three modules are required for an AS subject award, and six for an A Level subject award.

All modules are assessed by an examination lasting 1hour 30 minutes and are worth 75 marks.

There is no coursework.

## **Career opportunities**

Careers Service advice about A-Level mathematics is:

This is probably the most marketable A-level in terms of acceptability. It is difficult to think of any course/career where it would not be welcomed in combination with other subjects.

Mathematics A-Level would be applicable for the following:

- Courses/careers in Mathematics, Engineering and most areas of Physics.
- Computing, Accountancy, Economics, Business, Banking, Air Traffic Control, Retail Management, Architecture, Surveying, Cartography, Psychology and, of course, Teaching to name but a few.

Mathematics A-Level is well regarded by both institutions and employers. Employers in all walks of life readily accept A-Level mathematics as a desirable qualification. There are good economic reasons for studying maths. A recent report said that that young people with A level maths earn 10 per cent more than their mathematically challenged counterparts.

- Maths conferred a clear advantage even when taken by weaker students. People who scraped a pass still enjoyed a higher income later in life;
- A shortage of highly numerate candidates in the jobs market means employers pay a premium for the problem solving and number crunching skills of A-Level mathematicians;
- A possible explanation is that the maths skills learned at A level, such as logical thinking, problem solving and statistical analysis, may be closer to those actually used in the workplace than skills learned in other subjects.

## **Present student's comment**

*"The Pure mathematics course is making me think more logically and this is having a positive effect on my other subjects".*

**BOARD:** AQA

**SPECIFICATION NO:** AS=6361, A2=5361