

# **FURTHER MATHEMATICS AT POST-16**

Welcome to Post-16 Mathematics. This letter contains information to help you prepare for life as an A-level Mathematics student at The West Bridgford School. Please read the information carefully and if you have any questions direct them to your teacher or come and see Mrs Lynch or Mr Judge in the Maths Office.

## **AQA A LEVEL FURTHER MATHEMATICS (7366)**

"A-level Further Mathematics is designed to broaden and deepen the mathematical knowledge and skills developed when studying A-level Mathematics. It is studied alongside or after taking A-level Mathematics and provides a stimulating experience for those who enjoy the subject.

Further Mathematics is generally split into 2 parts: Pure Maths and Mathematical Applications.

The largest strand is the Pure content. This build upon the techniques in Algebra, Geometry, Trigonometry and Calculus developed from A Level Mathematics studies as well as introducing topics such as Complex Numbers, Matrices, Proof, Hyperbolic Functions, Polar Coordinates and Differential Equations.

Mathematical applications make up the remainder of the qualification and there are various options to suit the needs of individual students.

The applications fall into three strands:

- Discrete – networks, algorithms, sorting, linear programming, mathematical modelling.
- Mechanics – forces, energy, motion, kinematics, projectiles, mathematical modelling, moments, collisions and stability.
- Statistics – probability, data handling, probability distributions, estimation, correlation and regression and hypothesis testing.

Students can focus on one strand or study a mixture of the three. At the West Bridgford School, we generally focus on Discrete and Mechanics. You will have 8 hours of timetabled lessons per fortnight.

In Year 12, the AS portion of the course, you sit two exams, both 1 hour 30 minutes. Paper 1 is solely Pure content. Paper 2 is Applied Content. In Year 13, there are 3 exams, all 2 hours in length. The first two papers are solely Pure content, and Paper 3 contains Applied Mathematics.

Studying both A-level Mathematics and A-level Further Mathematics provides a foundation for further studies in any Science or Maths-based course, ranging from Computer Science, Medical Sciences, and Psychology to Statistics, Management and Actuarial Science.

Every Wednesday after school, the maths department run the "Sixth Form Drop-In Workshop". This is open to all students and provides students with help and support from both staff and their peers. This has proved an extremely effective tool for those students wanted to develop their knowledge at all levels.

### **PREPARATION WORK**

The jump from GCSE to A-Level Maths is pronounced and the pace of work is fast. It is important that you are prepared and starting from as strong a position as possible. To enable you to do so, we would like you to revise some topics.

We would recommend using CGP guides as a starting point. Key topics to focus on include:

- Fractions
- Surds & Indices
- Basic Algebra
- Quadratic Equations
- Trigonometry
- Straight Line Graphs

### **TEXTBOOKS**

Students will be required to purchase 2 textbooks for this course. It is also essential to have an appropriate calculator. Details and an opportunity to purchase all of these items through school will be made available when you start in September.

### **ASSESSMENTS**

When you arrive in September, you will sit an Initial Further Maths Assessment in your first maths lesson. This will enable us to identify how you will cope with the demands of Further Maths.

***Enjoy your Summer!***

***The Maths Department***