

FURTHER MATHEMATICS

$$\int T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M \left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L \right)$$
$$\int T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta) \right) \cdot f(x, \theta) dx = \int T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L \right)$$

FURTHER MATHEMATICS

What will I study?

This course is an additional A-Level on top of the Mathematics A-Level. It is generally considered to provide further challenge as well as providing a broader experience of Mathematics.

In the Pure Mathematics component students study areas including:

- matrices
- complex numbers
- hyperbolic functions
- expansion of power series
- advanced calculus

In the Optional Components students may study some of the following areas:

- Further Pure Mathematics
- Decision Mathematics
- Mechanics
- Statistics

Further Mathematics complements the Mathematics A Level by building on the skills obtained, whilst broadening students' Mathematical knowledge of new topic areas. Former students of Further Mathematics have enjoyed the intellectual rigour of the course and the accelerated progress they have made overall in their Mathematics skills. It is a very well respected course by both Higher Education and employers since it demonstrates a students' ability to deal with complex, analytical problems.

Assessment

The course is assessed entirely on examinations at the end of the course, with no coursework elements.

The following skill areas will be assessed:

Use and apply standard techniques
 Reason, interpret and communicate mathematically
 Solve problems within mathematics and in other contexts

Career Opportunities

If students are considering Higher Education in any technically focused subject e. g. Mathematics, Physics, Chemistry, Engineering, Economics then Further Mathematics is an ideal choice to support this path.

It is important to recognise that universities hold the qualification in high regard and it is seen to actually broaden, rather than narrow students' options. Previous students of Further Mathematics at our Sixth Form have progressed to study degrees including those listed above, as well as more diverse areas such as Psychology and careers in Accountancy and Teaching.

Entry Requirements

Five Level 4 GCSEs are required for entry into 6th Form.

Level 7 pass is required in GCSE Mathematics to study the Further Mathematics A Level course; decisions will be based on individual students.

Specialist facilities

Fully resourced dedicated classrooms

Hours of study (fortnightly)

9 hours of lesson time
 6 hours independent learning

