

*This document is designed to support the parents to help their child, it is not intended to detail Assessment Criteria from a specification etc... It is simply an overview of content and the skills and resources that parents and students need to be successful in this year and subject.*

## **Course information**

### **Year: 12 Subject: Further Mathematics.**

|                          |                     |   |                  |
|--------------------------|---------------------|---|------------------|
| <b>Subject</b>           | Further Mathematics | <b>Subject leader contact information</b> | Mrs Louise Evans |
| <b>Examination Board</b> | <i>Edexcel</i>      | <b>Specification Code</b>                 | <i>8FMO</i>      |

#### **Subject Content**

*Further MathematicsI has 3 overarching themes of:*

- *Mathematical argument, language & proof*
- *Mathematical problem solving*
- *Mathematical Modelling*

*The overarching themes should be applied along with associated mathematical thinking and understanding, across the whole of the detailed content in this specification.*

*Content Examined:*

- *Proof*
- *Complex numbers*
- *Matrices*
- *Further algebra & functions*
- *Further calculus*
- *Further vectors*
- *Discrete probability distributions*
- *Poisson & binomial distributions*
- *Chi squared tests*
- *Algorithms and graph theory*
- *Algorithms on graphs*
- *Critical path analysis*
- *Linear Programming*

#### **Assessment Details:**

Further maths is examined through 2 examinations taken in the summer of year 12.

Paper 1: Core pure mathematics (1hr 40mins)

Paper 2: Further maths options (1hr 40mins)

#### **To be successful students will need to be able to:**

- *be organised and self motivated*
- *be hardworking*
- *represent situations mathematically and understand the relationship between problems in context and mathematical models that may be applied to solve them*

- use technology, such as calculators and computers, effectively and recognise when it may be inappropriate to use them
- construct mathematical proofs
- make deductions and inferences and draw conclusions by using mathematical reasoning
- read and comprehend articles concerning applications of mathematics and communicate their understanding
- be able to link ideas and concepts to tackle more complex problems
- read and comprehend mathematical arguments, including justifications of methods and formulae, and communicate their understanding
- be rigorous in their mathematical arguments
- be good at problem solving

## What can I do to support my child at home?

### **Specific advice for parents... what can they do to help us?**

Encourage and support your child to prepare for external and external exams. Support them by providing an environment that they can work successfully in.

Help them to be organised and meet deadlines.

Encourage an interest in the subject in the wider world. How can maths help them outside school?

Research jobs and careers that use maths.

## Recommended resources for the course:

### **Websites:**

<https://www.physicsandmathstutor.com/>

<https://www.mathsgenie.co.uk/>

<https://sites.google.com/view/tlmaths/home>

<https://mathsaurus.com/>

<https://www.examsolutions.net/>

<https://www.mymaths.co.uk/>

### **Apps:**

**Desmos graphing App**

### Teaching Staff Contact Details

| Name              | Role                  | Email                                 | Tel         |
|-------------------|-----------------------|---------------------------------------|-------------|
| Mrs Evans         | KS5 Maths Coordinator | levans@cottesloe.bucks.sch.uk         | 01296688264 |
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