

SUBJECT: A Level Further Mathematics

YEAR: 12

HEAD OF DEPARTMENT: Mrs L Crowthers

GROUPING POLICY: Year 12 and Year 13 are taught separately

COURSE CONTENT:

Students will follow the Edexcel Further Mathematics Specification:

<https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/mathematics-2017.html>

The Further Mathematics course consists of the following areas:

Core Pure Mathematics, Further Statistics and Decision Mathematics

Core Pure Mathematics

9 Topics:

1. Complex Numbers
2. Argand Diagram
3. Series
4. Roots of Polynomials
5. Volumes of Revolution
6. Matrices
7. Linear Transformation
8. Proof by Induction
9. Vectors

Further Statistics

6 Topics:

1. Discrete Random Variables
2. Poisson Distributions
3. Geometric and Negative Binomial Distributions
4. Hypothesis Testing
5. Central Limit Theorem
6. Chi Squared Tests

Decision Mathematics

5 Topics:

1. Algorithms
2. Graphs and Networks
3. Algorithms on Graphs
4. Critical Path Analysis
5. Linear Programming
6. Route Inspection
7. The Travelling Salesman Problem

What will homework look like?

Homework will be most frequently related to the assessment of the current topic being studied. This may take the form of set learning tasks or questions from the provided text book or questions from previous examination papers. It may take the form of a research task that helps support the introduction of a new unit of study. Students will be encouraged to explore and evaluate different methods for revision to identify their preferred learning style.

ASSESSMENT

Students will set written examinations. Calculators can be used on each paper.

Examinations:

There will be 4 one hour and 30 minute examinations at the end of Year 13:

- Paper 1 assesses content from Core Pure Mathematics
- Paper 2 assesses content from Core Pure Mathematics
- Paper 3 assesses content from Further Statistics
- Paper 4 assesses content from Decision Mathematics

ADDITIONAL INFORMATION

How can I support my child in this subject?

It is important that your child is doing work outside the classroom and practising all the topics. If a student misses a lesson, they should make sure that they have caught up with the missed work and practised the exercises before the next lesson.

How can I support my child with exams?

Students have access to a wide range of resources both electronic and also paper versions. Examination practice is essential to succeed at A level and students need to structure their revision so that they have time to practise their skills. In this subject students need to regularly work on past paper questions so any revision timetable must be well planned and adhered to.

Independent study is very important but students should also be encouraged to seek help whenever necessary.