

Everything You Wanted to Know about Further Maths (but were afraid to ask) 2011/2012

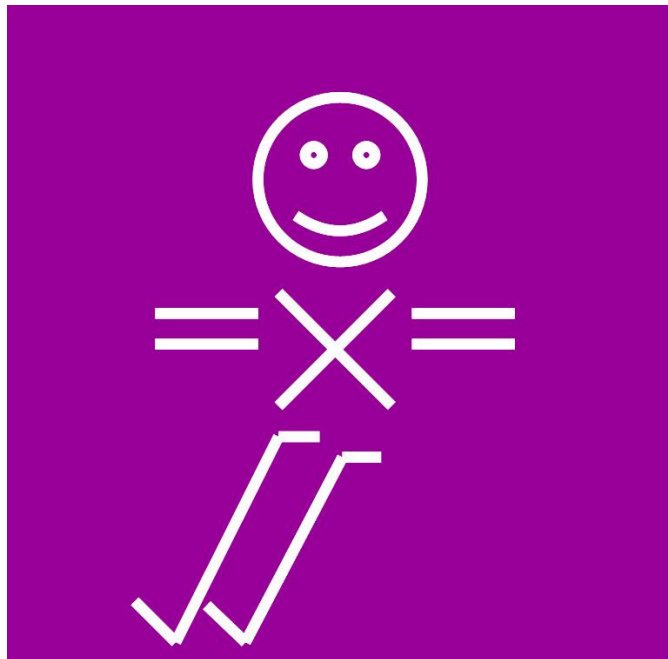


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Why choose A level maths

- “Excellent quality of teaching”
- “100% pass rate at A level”
- “Universities tend to prefer maths A level when comparing you”
– The Independent, 15/08/2009
- “Graduates with Maths A level earn 20% more than other graduates” – Times Educational Supplement, 20/11/2009

Some useful facts:

A LEVEL EDEXCEL MATHEMATICS Course Codes

- AS Mathematics (Syllabus 8371)
- A2 Mathematics (Syllabus 9371)
- AS Further Mathematics (Syllabus 8372)
- A2 Further Mathematics (Syllabus 9372)

Entry Requirements To access the course, we ask that pupils should have achieved a minimum of a Grade **A** at GCSE.

Breakdown of the Modules – The Core modules are predominantly based on algebra but include some shape work and numerical methods. Core 1 refreshes students with Higher GCSE algebra skills and develops them further. Statistics involves handling data. It develops work at GCSE, including averages, spread, correlation and probability. Mechanics goes hand in hand with Physics. It looks at forces and loads and is a must for engineers. Decision Mathematics involves applications in business and computation.

What can I do with a Maths A Level?

Mathematical ability is very highly regarded by both universities and employers. An A Level in Mathematics is essential for many degree courses (such as physics, engineering and, of course, Mathematics itself!), and is highly desirable in a wide range of subjects such as chemistry, natural sciences, architecture, computing, accounting etc. There is a national shortage of mathematicians, and employment prospects are good. To get some idea of careers open to those studying maths at ALevel and beyond, take a look at the careers section at www.plus.maths.org .

What to do before you start

- 1) You will be given a Head Start to AS level maths book. Complete this over the summer holiday and hand it in to your maths teacher on the first lesson.



- 2) You will need a scientific calculator. The new style Casio calculators with natural display are the best. (eg Casio FX 85ES) - £5 ish
- 3) You will have to buy your text books. Here are the 4 we will be using for year 12:



- A Level Mathematics for Edexcel: Core C1/C2 (ISBN = 0199117799) – approximately £18 at Amazon
 - Edexcel AS and A Level Modular Mathematics Decision Mathematics 1 D1 by Susie Jameson (ISBN = 1846908930) – we have copies of these (£5)
 - A Level Mathematics for Edexcel: Core C3/C4 (New Alevel) (ISBN = 0199117845) - approximately £18 at Amazon
 - Edexcel AS and A Level Modular Mathematics - Statistics 1 by Keith Pledger (ISBN = 0435519123) – we have copies of these (£5)
- 4) Have some folders, dividers and paper ready for each module (you will be doing 3 modules in year 12).

Resources

You will be given:

- This information booklet
- *A Headstart to AS Maths* book
- A formula booklet

You will have free access to:

- Revision books for each module (library)
- 7 printed past papers (with answers) for each module (filing cabinet in H23)
- Older exam papers for thorough students (wooden cabinet in H23)
- Exam papers stored in the Q drive
- Revision links stored in the Q drive
- Teachers help in the maths office
- Revision sessions before each module

Expectations

To help us supply you with a positive reference, we expect you to spend some time promoting maths within the school community. Here are some of the opportunities that you can help the maths faculty:

- To join the maths club rota at lower school. Here you will help a small group of year 7 girls with fun maths activities. Minimum 3 lunchtimes.
- To promote 6th form maths at the 6th form open evening
- To promote maths at the year 12 into 12 induction day
- To promote maths at the year 11 A level tester day
- To act as a maths mentor for a year 11/12 pupil
- To attend a maths trip to UWE in June of year 12

Homework and Independent Learning

- You should be doing 1 hour homework for every 1 hour lesson time. That works out at about 8 hours per week.
- You must submit your homework by the deadline. If it is late or you have not fully completed it, your maths teacher will follow this procedure
 - 1) Verbal warning + extension given
 - 2) Written warning – copy sent to parents and head of 6th form
 - 3) Parents asked to meet Mr Bent and contract drawn up
- If you get stuck on some of your homework, you should follow this procedure **before the work** is due in:
 - 1) Reread the example in the text book
 - 2) Ask for help from people on your course
 - 3) Use the revision help pdf file which gives hyperlinks to videos of taught lessons
 - 4) Use mymaths.co.uk (login = Hayesfield, password = shape)
 - 5) Go to the maths office and ask a member of staff (most maths teachers should be able to help you)
 - 6) Make a note of the topic and try other examples from other text books

Independent Learning

You will unlikely reach your indicator if you are not independent. Our most successful students in the past tend to:

- Complete the mixed exercises in the text books (not set as homework)
- Come to the maths office regularly (once a week)
- Attend revision classes before the modules
- Complete as many as 10 past papers before exams.
- Buy and use the recommended text

Testing and Exams

To achieve an AS level in Mathematics;

You need to sit three exams. There is **no coursework**. You must take the Core 1 and 2 exams (**C1 and C2**). The other exam is Decision maths (D1)

To achieve an A Level in Mathematics;

You must sit a further three exams. You must take the Core 3 and 4 Exams (**C3 and C4**). The other examination is Statistics 1 (S1)

You will have 3 different types of assessments:

1. Chapter tests – done as homework. You have to repeat this assessment if you fail on these pieces of work
2. Mock exams – done in class
3. External exams – count towards the A level

AS unit plan outline 2011/12
MATHEMATICS

Term 1		Term 2		Term 3	
5/9/11	Independent learning Start C1 1 POWERS & SURDS 2 QUADRATIC FUNCTIONS Entrance Exam (Chapters 1&2)	31/10/11	7 GEOMETRIC SEQUENCES 8 GRAPHS OF TRIG Homework Assessment (7&8)	3/1/12	C1 Revision C2 Revision
12/9/11	3 SKETCHING CURVES 4 EQUATIONS AND INEQUALITIES Homework Assessment (3&4)	7/11/11	9 DIFFERENTIATI ON 10 TRIG IDENTITIES	9/1/12	C1 Revision C2 Revision C1 Exam – Fri 13 Jan C2 Exam – Fri 13 Jan
19/9/11	5 COORDINATE GEOMETRY IN THE (X,Y) PLANE 6 SEQUENCES Homework Assessment (5&6)	14/11/11	11 INTEGRATION Homework Assessment (9, 10 &11) MOCK C2EXAM	16/1/12	Start C3 1 ALGEBRAIC FRACTIONS 2 FUNCTIONS Homework Assessment(1&2)
26/9/11	7 DIFFERENTIATION 8 INTEGRATION Homework Assessment (7&8) C1 MOCK EXAM	21/11/11	START D1 1 ALGORITHMS 2 GRAPHS AND NETWORKS Homework Assessment (1&2)	23/1/12	3 EXPS AND LOGS 4 NUMERICAL METHODS Homework Assessment(3&4)
3/10/11	Start C2 1 ALG AND FNS 2 THE SINE AND COSINE RULE Homework Assessment (1&2)	28/11/11	3 ALGORITHMS ON NETWORKS 4 ROUTE INSPECTION Homework Assessment (3&4)	30/1/12	5 TRANSFORM GRAPHS 6 TRIG Homework Assessment (5&6)
10/10/11	3 EXPONENTIALS AND LOGS 4 COORDINATE GEOMETRY Hwk Assessment (3&4)	5/12/11	5 CPA 6 LINR PROG 7 MATCHINGS Hwk Assessment (5&6&7)	6/2/12	7 TRIG 2 8 DIFFERENTIA TION Homework Assessment(7&8)
17/10/11	5 BINOMIAL 6 RADIANS Hwk Assessment (5&6)	12/12/11	DIMOCK EXAM C1 Revision C2 Revision		Holiday
	Holiday		Holiday		

Term 4		Term 5		Term 6 (start Further Maths)	
20/2/12	C3 MOCK Start C4 1 PARTIAL FRACTIONS	16/4/12	Start S1 1 MATHS MODELLING 2 REPRESENTATION OF DATA Homework Assessment (1&2)	11/6/12	Study Leave C3 14 June
27/2/12	2 COORDINATE GEOMETRY (PARAMETRICS) Homework Assessment (1&2) 3 BINOMIAL	23/4/12	3 SUMMARISING SAMPLE DATA 4 DISPERSION Homework Assessment (3&4)	18/6/12	C4 Revision C4 21 June Start FP1 1 COMPLEX NUMBERS
5/3/12	4 DIFFERENTIATION Homework Assessment (3&4) 5 VECTORS	30/4/12	5 PROBABILITY 6 CORRELATION Homework Assessment (5&6)	25/6/12	2 NUMERICAL SYSTEMS 3 COORDINATE SYSTEMS
12/3/12	5 VECTORS	7/5/12	7 REGRESSION 8 DISCRETE RANDOM VARIABLES Homework Assessment (7&8)	2/7/12	4 MATRICES
19/3/12	6 INTEGRATION	14/5/12	9 NORMAL DISTRIBUTION S1 Mock D1 Revision C1 Retake 16 May D1 18 May S1 18 May	9/7/12	Extension week
26/3/12	6 INTEGRATION Homework Assessment (5&6) C4 MOCK	21/5/12	Revision (study leave) C2 Retake 24 May	16/7/12	5 SERIES 6 INDUCTION FP1 MOCK
	Holiday	28/5/12	Study Leave		Holiday
			Holiday		