

A Level Maths – Subject Information Sheet

“The book of nature is written in the language of mathematics” Galileo Galilei

“Maths is the language of the universe. So the more equations you know, the more you can converse with the cosmos” Neil DeGrasse Tyson

“Without geometry life is pointless”

Why choose A Level Maths?

You should choose A Level Maths if

- you are passionate about it
- you like to be challenged
- you are willing to discover the “Why?” and “How?” behind real-life situations
- you like discussing about different methods and approaches to solve problems
- you can see that maths is all around you.

Educational Progression and Career Opportunities.

What possible careers or degree subjects would A Level Maths be useful for?

Mathematics and Further Mathematics are “facilitating” subjects. This means that they are among a list of A-level subjects which are asked for most frequently by universities.

This means that if you study a group of facilitating subjects, then you will still have a large number of degree options open to you. Facilitating subjects are also highly respected and will give you the best chances of being accepted onto many degree programmes. Therefore, if you don’t have any idea about degree choice it could be best to start by considering what are known as the facilitating subjects.

Degree choices where A-level Mathematics is an essential requirement of nearly all universities

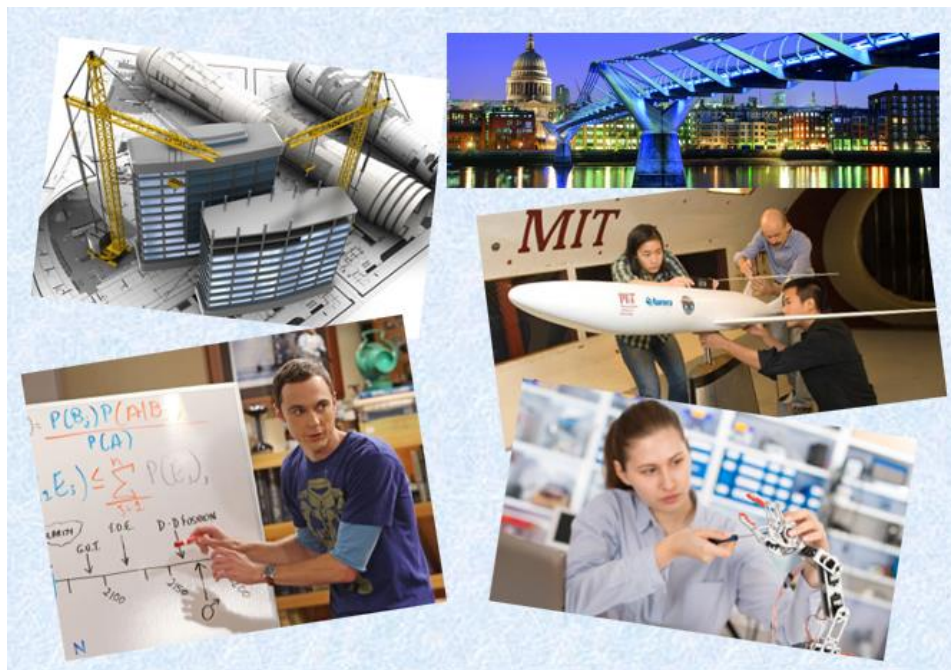
- Actuarial Science
- Aeronautical Engineering
- Chemical Engineering
- Civil Engineering
- Economics
- Electrical/Electronic Engineering
- Engineering (General)
- Mathematics
- Mechanical Engineering
- Physics
- Statistics

Degree Choices where A-level Mathematics is an essential requirement by some, but not all universities

- Accountancy
- Chemistry
- Computer Science
- Management Studies

Degree Choices where A-level Mathematics can make up one of an essential combination of subjects

- **Biochemistry** – some will say Chemistry plus one from Mathematics/Physics/Biology. Doing Chemistry, Biology and Mathematics or Physics will keep all Biochemistry courses open to you.
- **Biomedical Sciences** (including Medical Science) – Normally two from Biology, Chemistry, Mathematics and Physics.
- **Chemistry** – Most courses require Chemistry and would like Mathematics and one other science subject (for example, Physics or Biology).
- **Dentistry** – Some require Mathematics or Physics.
- **Environmental Science/Studies** – Many courses will ask for two from Biology, Chemistry, Mathematics, Physics and Geography.
- **Geology/Earth Sciences** – Usually two from Mathematics, Physics, Chemistry and Biology.
- **Materials Science** (including Biomedical Materials Science) – Normally two from Chemistry, Mathematics, Physics, Biology (also Design Technology for some universities).
- **Medicine** – If you do Chemistry, Biology and one from Mathematics or Physics you will keep all the medical schools open to you.
- **Optometry** (Ophthalmic Optics) – Two from Biology, Chemistry, Mathematics or Physics (some courses prefer Biology as one of the choices).
- **Pharmacy** – Chemistry and one from Biology, Mathematics and Physics keeps the vast majority of courses open to you. Some courses like to see Chemistry, Biology and Mathematics.
- **Physiotherapy** – Most courses will consider you with just Biology. However, some also require a second science from Chemistry, Mathematics or Physics.
- **Psychology** – A few courses ask for one from Biology, Chemistry, Mathematics, Physics.
- **Sports Science/Physical Education** – Many courses want to see one from Biology/Chemistry/Mathematics/Physics (some courses will treat Physical Education as a science equivalent).
- **Teacher Training** – Mathematics can contribute to the list of essential A-levels.
- **Veterinary Science** – You should do Chemistry and Biology and one from Mathematics/Physics so that you have all universities open to you.



Description of the course

A Level Mathematics is made of two modules: **Pure Mathematics** (66.67% of the qualification) and **Statistics & Mechanics** (33.33% of the qualification).

Module		Pure Mathematics	Statistics & Mechanics
Content		Topic 1 – Proof Topic 2 – Algebra and functions Topic 3 – Coordinate Geometry in the (x,y) plane Topic 4 – Sequences and series Topic 5 – Trigonometry Topic 6 – Exponentials and logarithms Topic 7 – Differentiation Topic 8 – Integration Topic 9 – Numerical Methods Topic 10 – Vectors	Section A: Statistics Topic 1 – Statistical sampling Topic 2 – Data representation and interpretation Topic 3 – Probability Topic 4 – Statistical distributions Topic 5 – Statistical hypothesis testing Section B: Mechanics Topic 6 – Quantities and units in mechanics Topic 7 – Kinematics Topic 8 – Forces and Newton’s laws Topic 9 – Moments
Exam information	Number of papers	2	1
	Length	2 hours per paper	
	Marks	100 per paper	
	Calculator	allowed	

Want to find out more? Here are some useful websites and resources to use.

<https://amsp.org.uk/universities/a-level>

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

What other subjects would work well with A Level Maths?

- Physics
- Economics
- Chemistry
- Biology
- Computer science