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# Is A level Further Mathematics for you?

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Towards the end of A levels, the Further Mathematics class of a batch usually comes down to a fifth of its initial size. Being arguably the most difficult subject out of all the A levels, Further Mathematics has certainly garnered a bit of notoriety. Covering complex branches of mathematics, it's a great subject for STEM students. However, taking it for all the wrong reasons can not only deprive you of its benefits but make your life a whole lot more difficult.

Seniors tend to fearmonger when it comes to Further Mathematics, presenting it as some monumentally difficult struggle that eats away at your time and ability to do everything else. While this deters most O level graduates from taking it, it also attracts some who want to prove something to themselves or others. Mistaking it for a one-way ticket into prestigious universities, parents and teachers can also pressure you into taking it.

If your reasons for pursuing it aren't genuine interest or curiosity, it will be as difficult as you've been told. Success in O level Additional Mathematics isn't an indicator of how you'll do in Further Mathematics. The mere prerequisites for Further Mathematics include the syllabi of all the A level Mathematics components, including Mechanics, Statistics, and Pure Mathematics. You must learn the entire A level Mathematics syllabus before even starting A level Further Math, double-booking AS and A2 content in one year.

The biggest difference between A level Mathematics and Further Mathematics is that the latter involves a lot of abstract mathematical theory. Oftentimes, the questions won't even have any actual values and you'll have to solve them entirely algebraically, presenting different variables in terms of others. It demands a great depth of understanding in mathematical thinking, understanding of derivation, and

how you reach the places you reach in a sum.

The inherent difficulty is exacerbated by the lack of help you receive. Due to the small number of candidates taking the subject, there's a scarcity of solved past papers and other helpful resources online. Additionally, coaching centres teaching Further Mathematics are usually very exploitative. Not only are the teachers frequently not very good at teaching, but they sometimes hike up tuition fees to absurd amounts because students have no choice but to sign up since few places elsewhere offer the subject.

Although the process seems bleak, there are lots of pros to taking Further Mathematics. It's a very good starting point for many STEM professions, such as engineering. It can even make your university life easier as it covers many high-level calculus topics. It also looks great on your resume if you're applying to UK universities, due to the emphasis they place on A level grades.

Despite how it might seem, the purpose of this article isn't fearmongering. It's to temper your expectations with Further Mathematics. It's vital to approach the subject from a place of genuine curiosity about mathematics, as opposed to treating it as merely a means to an end. Choosing it with the intent of enthusiastic exploration, as opposed to ego-booster or resume-building, is the only sustainable way to grind those long hours of practice that are needed to get good at it.

Contrary to popular belief, you don't need to be inherently good at math to be able to study Further Mathematics. As long as you enjoy mathematics and see the beauty in arithmetical critical-thinking, you've got what it takes.

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## Challenges that may arise with taking Further Math

1. You must learn the entire A level Mathematics syllabus as a prerequisite.
2. Your school may not have adequate resources to support you.
3. Comparatively fewer helpful resources, such as solved past papers, are available online.
4. Teachers at coaching classes may exploit you and your lack of options.
5. Friends and teachers may exaggerate the difficulty level, which may cause you to perceive the challenges as more challenging than they are.

## Benefits to taking Further Math that'll make it all worth it

1. It gets much easier after the first year, once you've gotten that initial grind in.
2. It's a fun, rewarding, and very intellectually stimulating challenge – if you're into that sort of thing.
3. Universities will know you're serious about your love for STEM.
4. You'll go into Math, Physics, and Engineering courses in university with a very useful skillset.

