

Taking Maths Further

The number of students taking A Level Mathematics and Further Mathematics has reached an all time high this year and today's A-Level results are a real cause for celebration; the best results since records began 20 years ago.

Almost 90,000 Mathematics or Further Mathematics A-Levels were awarded this year, compared to 85,000 in 1989 which was previously the highest figure recorded. Even more encouraging is that the number of pupils sitting Further Mathematics has doubled in the past 5 years, as this is now a subject requirement for many prestigious courses at leading Universities. Mathematics (including Statistics) is embedded in a large majority of University courses including the Sciences, Technology, Engineering and Finance.

People with qualifications in Mathematics are highly regarded in the work place and are likely to earn more money. And at a time when our economy needs more qualified young people to pursue careers in technological areas, it is good to know the country's future employees are rising to the challenge.

As David Willetts, Secretary of State for Business, Innovation and Skills said recently:

"In terms of future job and career opportunities, A-Level Maths scores more highly than just about anything else."

These dramatic increases are the result of the efforts of many people and organisations. However, major credit belongs to MEI's initiative in setting up a programme to rescue Further Mathematics and the wisdom of successive governments in supporting it.

Compared with 2009:

- A level Mathematics numbers are up from 72 475 to 77 001, an increase of 6.2%.
- A level Further Mathematics numbers are up from 10 473 to 11 682, an increase of 11.5%.

Since 2003 A level Mathematics level numbers have increased by 52.2% (from 50 602). Since 2003 A level Further Mathematics level numbers have increased by 119.8% (from 5 315).

Increases at AS level are also strong, suggesting continued increases at A level next year.

Compared with 2009:

- AS level Mathematics numbers are up from 103 312 to 112 847, an increase of 9.2%.
- AS level Further Mathematics numbers are up from 13 164 to 14 884, an increase of 13.1%.

Since 2003 AS Mathematics numbers have increased by 76.8% (from 63 841). Since 2003 AS Further Mathematics numbers have increased by 341.5% (from 3 371).

Charlie Stripp, MEI Programme Leader of the Further Mathematics Support Programme said:

"Five years ago less than 40% of the state-funded schools and colleges that offered A-Level Mathematics also had students taking A Level Further Mathematics. That figure is now over 60%. The FMSP has been able to boost participation in AS/A-Level Mathematics and Further Mathematics by working with schools and colleges to ensure universal access to Further

Mathematics tuition. This has been combined with strong promotion of the value and importance of Mathematics as a subject to secondary school pupils, working in partnership with universities and employers.”

Professor Sir John Holman, Director of the National Science, Technology, Engineering and Mathematics (STEM) programme commented:

“The growth in numbers taking mathematics and further mathematics at A level is a real success story. It owes much to the work of the Further Mathematics Support Programme as well as to the greater sense of economic realism among students as they make their A level choices. The challenge now is to build on this success, particularly for the benefit of students from disadvantaged backgrounds, who often do not have a clear understanding of the value of mathematics to employability. Schools and colleges have a duty to make this clear in their careers advice”.

Professor Dame Julia Higgins FRS, Chair of the Advisory Committee on Mathematics Education (ACME), said:

“It is very encouraging to see these increases in Mathematics and Further Mathematics. ACME believes that it is in the nation’s interest for more people to study mathematics beyond the age of 16, in order to support a variety of destinations and aspirations. Every year now we see a larger and larger group of young people becoming better equipped for studying a wide range of mathematically-rich subjects at university through taking Further Mathematics, and the Further Mathematics Support Programme should be very proud of its work in achieving this. ACME sends its congratulations to everyone receiving results today and wishes them well for the future.”

Professor Celia Hoyles, Director of the National Centre for Excellence in the Teaching of Mathematics, said:

“The significant increase in numbers taking Mathematics and Further Mathematics at A Level is extremely good news and means that more and more of our young people will be well prepared to meet the challenges of a competitive jobs market where these skills are highly valued. They and their teachers are to be congratulated on another year of excellent results.

“The Further Mathematics Support Programme has played an important role in helping bring this about and we at the National Centre are pleased to be working in partnership with MEI in this programme to support teachers of mathematics in their vital role, ensuring that students achieve their full potential in this key subject and can make a major contribution to building a strong economic future for our country.”

Professor Duncan Lawson, Chair of the Joint Mathematics Council said:

“The increasing numbers of students achieving A level Mathematics and Further Mathematics is very encouraging and much needed. It is good for the students and good for the country. The Further Mathematics Support Programme (FMSP) has made an important contribution in enabling students to access A level Further Mathematics who, without FMSP, would not have been able to do so.”

Chris Budd, Professor of Applied Mathematics at the University of Bath and Professor of Mathematics at the Royal Institution of Great Britain welcomed the increase in numbers of Mathematics and Further Mathematics students:

“I greatly welcome the increase in numbers of students doing A level Maths and Further Maths. Maths is essential for many aspects of 21st century life and is at the heart of the science and technology of the future. The more students who can benefit from the training that maths provide the better, and it is terrific that the FMSP has given increased access to Further Maths for a much wider section of the UK community”

Philip Diamond Associate Director, Education and Planning, Institute of Physics commented:

"It is very pleasing to see a rise in the numbers of students studying maths and further maths, subjects that are so important to the education of physicists. MEI has played significant role in this success, especially in enabling an increasing number of students from state schools to take Further Mathematics"

Richard Shearman, Director of Formation at the Engineering Council, also welcomed the rise in entries, saying:

"The work done by MEI has resulted in a significant increase in the numbers of young people successfully continuing mathematical studies. This opens up to them a far wider range of opportunities for further study and will help increase numbers going on to advanced study in engineering and technology."

Carol Vorderman, Chair of the Taskforce for Maths Education, reporting to the Conservative Party, praised MEI and the FMSP:

"MEI is a small organisation, but it has had huge influence in schools and colleges. The fantastic increases in Further Maths are down to MEI setting up and running the FMSP. This has transformed the opportunities for students in state schools, giving them the chance to take Further Maths A level where, without the FMSP, this would not be possible. Massive congratulations to everyone, especially the students. This has had a huge positive knock-on effect in higher education, not only in Maths itself, but also in the Sciences and Engineering, where students can cope with more maths in their degrees. This is a win-win situation, or, as they say in Maths, „the outcomes are only positive“."

Notes for Editors

1. Mathematics in Education and Industry (MEI), an independent charity that supports mathematics education (www.mei.org.uk)
2. The Further Mathematics Support Programme (www.furthermaths.org.uk) is a government-funded initiative, supported by the Department for Education and is managed by MEI. It follows on from the very successful 'Further Mathematics Network' initiative, which was set up following a successful 5 year pilot project that was developed by MEI and funded by the Gatsby Charitable Foundation.
3. The Further Mathematics Support Programme involves schools, colleges and universities working together collaboratively to widen opportunities for students. It uses a blended learning strategy that employs intensive tutorial input alongside independent study, supported by extensive, purpose-written, online resources. This model is proving very successful and, suitably adapted, could be used by other high-value shortage subjects such as physics and modern languages.
4. Further Mathematics reinforces the content of the standard AS/A level Mathematics and introduces students to important topics such as complex numbers and matrices, which are vital for many mathematics-related degrees.
5. For more information, please contact Sue Owen on 01225 716493 or by email at:

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For detailed background information on the Further Mathematics Support Programme and Mathematics in Education and Industry (MEI), please see www.furthermaths.org.uk and www.mei.org.uk