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Further Mathematics Support Programme Wales

Evidence supporting the claims made in the cover letter:

The most popular A-levels

- According to the JCQ, as reported in the AMSP presentation at <https://amsp.org.uk/resource/why-study-maths>, the top three most popular A-level entries in the UK in 2021 were: Mathematics 97,690 entries, Psychology 71,235 entries and Biology 70,005 entries.
- In Wales, as reported in <https://www.wjec.co.uk/media/1bzptrur/gce-a-level-final-results-june-2021.pdf>, Mathematics is still most popular with the top 3 now being: Mathematics 3,931 entries, Biology 3,400 entries and Chemistry 2,605 entries.

Universities where Further Maths is required for a Maths Degree

- These are Cambridge, Durham, Imperial College, KCL, UCL, Oxford, Warwick according to the UCAS website.

Universities that reduce their entry requirements for students with Further Maths wanting to study for a Maths Degree

- These are Bath, Bristol, Kent, Lancaster, Leeds, Sussex, Swansea, York. Note: Bath says "If you are studying A levels we strongly prefer that you take a full A level in Further Mathematics".

Non-maths degrees expecting Further Maths A-level

- Of students studying Computer Science at Oxford, 97% have studied Further Maths at A-level¹. Similarly, a page describing academic requirements for Engineering at Cambridge says "If your school or college is able to offer Further Maths or you can access it through the Further Mathematics Support Programme, you are *very strongly* encouraged to study this"², and the equivalent page for Economics at the LSE says "Further Mathematics at A-level is also desirable, and is acceptable for entry in combination with Mathematics and one other A-level."³ Obviously, these are not typical universities, but the point that Further Maths A-level is also valued highly by non-maths courses is likely to become true much more widely.

Easier transition between school and university after studying Further Maths

Evidence supporting this re. STEM subjects is supplied in the two papers:

- Lyakhova, S. & Neate, A. (2019) Further Mathematics, student choice and transition to university: part 1 - Mathematics degrees. *Teaching Mathematics and its Applications: An International Journal of the IMA*, 38(4), 167-190.
- Lyakhova, S. & Neate, A. (2021) Further Mathematics, student choice and transition to university: part 2 - non-mathematics STEM degrees. *Teaching Mathematics and its Applications: An International Journal of the IMA*, 40(3), 210-233.

Additional Mathematics supporting students transition from GCSE to A-level Mathematics and Further Mathematics choice

Evidence supporting this is supplied in the paper:

- Tanner, H., Lyakhova, S., & Neate, A. (2016). Choosing Further Mathematics. *Cylchgrawn Addysg Cymru / Wales Journal of Education*, 18(2), 23-40.

¹<https://www.ox.ac.uk/admissions/undergraduate/courses/course-listing/computer-science#content-tab--3>

²<https://www.admissions.eng.cam.ac.uk/guide/requirements>

³<https://www.lse.ac.uk/study-at-lse/Undergraduate/Degree-programmes-2022/BSc-Economics>