



Higher UCAS Points for Science and Mathematics

A serious incentive for students taking A levels is the UCAS points that they accumulate, crucial for further study and often assessed by employers. Currently all A level subjects accrue the same amount of UCAS points for each grade.

CaSE proposes awarding more UCAS points for science and mathematics A levels as an incentive for more students to choose these subjects. This premium would apply to A levels and other similar qualifications (e.g., highs, Diplomas, etc.).

Improving uptake

Improving the uptake of science and mathematics A levels is highly desirable as it will:

- Expand the pool of candidates for work or further study in the sector.
- Increase the scientific literacy and numeracy of the general population, empowering all to make better-informed decisions on increasingly relevant scientific issues.
- Improve the skills of workers in other sectors that draw upon analytical and mathematical abilities (e.g., finance, law).

Higher UCAS points

Uptake of science and mathematics A levels could be increased by awarding more UCAS points for them on the basis that it is advantageous to the nation as a whole. The justification for this is similar to that for strategic and vulnerable subjects at degree level.

- Universities would presumably increase the entrance requirements for courses in science and mathematics, but as students would have studied these subjects and reaped the higher UCAS points, it should not cause problems.
- Some universities are already manipulating UCAS points, for example the University of Chester awards double UCAS points for Further Mathematics grades.
- Schools and colleges would be motivated to encourage students to pursue these subjects and provide optimal teaching to enhance their position in the league tables.
- Australian universities offer a similar Bonus Points scheme for important subjects.

Variable subject difficulty

Science and mathematics are perceived to be among the most challenging subjects and as students, schools and colleges are assessed by performance this can reduce their uptake.

- Several quantitative research studies with a range of methodologies support the idea that some A levels, including the sciences and mathematics, are harder than others.¹
- Some universities, including Cambridge, have clarified what they consider to be more "suitable" or "effective" A levels to prepare for entrance.
- The Government has not accepted the evidence that A levels vary in difficulty.² But the critical point is whether or not A levels are *perceived* to vary in difficulty as that perception is what affects students choice. Research shows that students do indeed perceive the sciences and mathematics as more difficult.¹

A simple argument

While it is possible to justify rewarding more points to more difficult subjects, assessing the actual difficulty of different subjects, and thereafter maintaining relative differences, is fraught with complication. In contrast, providing more points as an *incentive* to study strategically important subjects is more straightforward. (The evidence and perception that these subjects are also more difficult is advantageous but not essential.)

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¹ Coe et al, (2008). *Relative Difficulty of Examinations in Different Subjects*. The Curriculum, Evaluation and Management (CEM) Centre, Durham University.

² Science Teaching in Schools. House of Lords Science and Technology Committee, 2005-06