

5

Where's the Money?

Illustrating the earning potential of STEM careers

It is important to dispel the myth that financial rewards for STEM graduates are poor. There has been a rapid rise in the number of students studying for a degree in the UK, but there is significant variation in the value of different degree subjects. STEM graduates fare considerably better than the average graduate, both in terms of enjoying higher annual earnings and in finding a graduate-level job.

Economic benefit from taking a STEM degree subject

There is a higher lifetime graduate earnings premium (premium refers to the percentage by which the hourly earnings achieved by degree holders exceed that achieved by individuals in possession of two or more A Levels) for STEM degrees compared to all degrees. Research suggests that the subjects of maths, physics, chemistry and engineering all have significantly higher lifetime earnings benefit than that the average for all degrees. The table below shows the additional lifetime earnings for STEM subjects compared with all degrees.

Subject	Additional Lifetime Earnings
Engineering	£220,000
Chemistry	£186,000
Physics	£188,000
Maths	£220,000
Biological Sciences	£110,000
All Degrees	£129,000

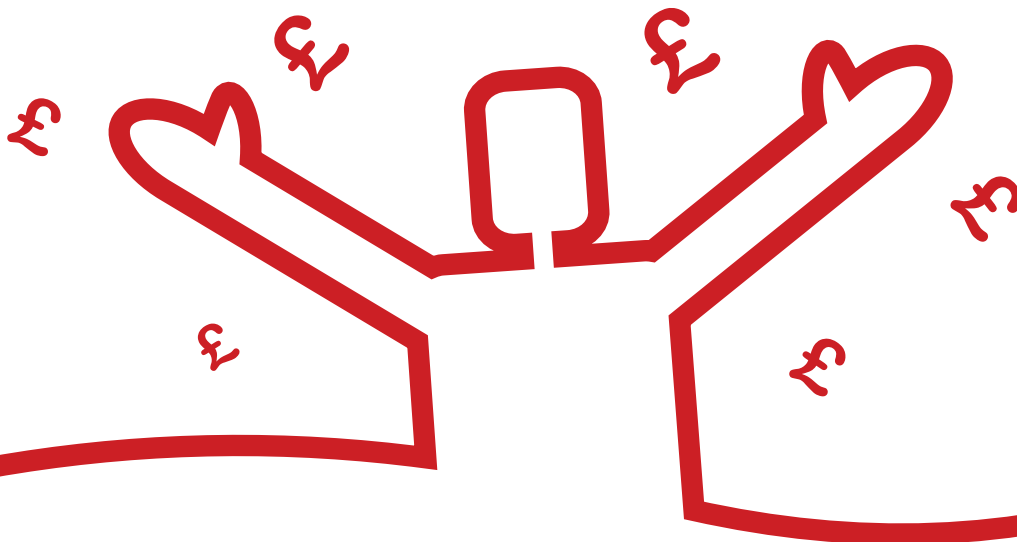
(Source: *The Economic Benefit of Higher Education Qualifications* produced for The Royal Society of Chemistry and the Institute of Physics by PricewaterhouseCoopers LLP, January 2005)

To give the above figures more perspective, the research indicated that history and English graduates achieve additional lifetime earnings of less than £100,000.

Recent evidence has suggested that around one third of graduates fail to get a graduate-level job (McIntosh, 2005; Chevalier and Lindley, 2007). For STEM graduates, however, the difficulties in getting good pay and a graduate-level job are much less of a problem. The tables below show the top paid degree subjects, compared to the bottom, for men and women respectively. In each case, the wage premium shown is relative to the average earnings of an arts graduate. There is a substantial variation in the earnings of graduates with different degree subjects. For instance, men with electrical engineering degrees earn in excess of 40% more than the average arts graduate. The figures suggest that employers place a higher value on graduates offering a technical or mathematically-based degree. Graduates with weaker numeracy skills tend to fare worse than their more numerate peers.

The wage premium for some degree subjects (compared to an arts degree) for men

Subject	Mark-up from average arts graduate earnings	Rank
Accountancy	42.15%	1
Electrical engineering	40.73%	2
Maths and computing	37.23%	3
Mechanical engineering	33.71%	4
Social sciences	14.20%	21
History	11.69%	22
English	10.84%	23
Sociology	10.83%	24



The wage premium for some degree subjects (compared to an arts degree) for women

Subject	Mark-up from average arts graduate earnings	Rank
Accountancy	37.12%	1
Medicine and related	27.52%	2
Law	23.97%	3
Education	22.40%	4
Psychology	1.98%	21
Biology	1.60%	22
History	0.95%	23
Politics	-0.91%	24

(Source: Sloane P J and O'Leary N C, 2004)

STEM salaries for non-graduate entrants

For non-graduate entrants into STEM-related occupations, the financial rewards are also above the average. The table below gives some examples by occupational sector:

Occupational sector	Average annual salary
Engineering technicians	£30,930
Electrical trades	£28,029
Science & technology associate professionals (e.g. lab technician)	£27,285
Telecommunications engineers	£27,134
All sectors	£26,020

(Source: Annual Survey of Hours & Earnings, Office for National Statistics, 2008)