



 BRITISH ACADEMY



 The Higher Education Academy

## Higher Education Academy STEM Mathematics and Statistics in the disciplines and tackling transition

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## Mathematics and Statistical Skills

- They are fundamental tools which students need to acquire in order to be able to understand and practice at degree level and beyond
- These skills are embedded within the curricula of many subjects both in STEM , Social Sciences and much more widely.
- Clear need for the UK HE sector to openly articulate to the secondary sector the true extent of the need for these skills in a wide range of degree subject areas.

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## STRATEGIC PROJECT



Need to understand state of play

- What is the level of maths and stats required?
- Quantitative versus Qualitative content - how much does this vary across certain degree subjects?
- What is the understanding /perception of students, teachers and lecturers?

Scoping a range of disciplines; what do we know?

**Business, Chemistry, Computing, Economics, Geography, Psychology, Sociology**



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## Progress so far



- Literature review in 7 areas
- 6 Discussion events on tackling transition; dialogue between sectors and all parties involved.
- 7 Staff Surveys undertaken; Students about to begin
- 7 Reports will be published on the HEA website over the Summer
- Dissemination of key findings will follow
- Overarching report in Autumn



[www.heacademy.ac.uk/disciplines/maths-stats-or/stem-project](http://www.heacademy.ac.uk/disciplines/maths-stats-or/stem-project)

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## Early Findings



### UNDERSTANDING BETWEEN SECTORS

- Genuine recognition of a lack of understanding across the sectors (pre-tertiary and HE) about what things were like on the “other side”
- Feedback indicates that dialogue between sectors was constructive in helping to create understanding and new ways of working;
- Questions about where the problem arises



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## Early Findings



### STUDENT CONFIDENCE

- Psychology: discussion around **maths anxiety**,
- Sociology: discussion about the huge spectrum of ability
- Need to develop **student confidence** especially on entry to HE;
- Also discussion on who should provide maths and stats support at University to help student confidence



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## Early Findings



### MATHS AND STATS IN CONTEXT

- Geography: in fieldwork and GIS and these had changed significantly in schools due to removal of assessed coursework elements, meaning the transition is now harder
- Chemistry: the need for the maths to be placed in context. E.g. so the student is able to use different variables
- Psychology: Perceived need to teach statistics in a way that had relevance to real life, and promoted problem-solving skills.
- Sociology: not comfortable with using numbers to describe the social world

