

Supporting Mathematics GCSE resits in Further Education

STEM Learning Limited ('STEM Learning') is seeking expressions of interest from FE colleges to take part in a pilot project to support the teaching and learning of GCSE mathematics resits. Successful applicants will engage in this new pilot project which seeks to build an evidence base, focused on demonstrating what works to improve confidence in mathematical attitudes and skills, whilst at least maintaining outcomes in GCSE mathematics resit for young people in FE colleges.

The project aims to address the following challenges:

- **The ideal curriculum:** colleges are often trying to get through all the relevant GCSE content in a year. However, GCSE assessment objectives only allocate 50% of the marks to 'answering traditional maths questions' the other 50% for reasoning and problem solving.
- **Embedding differentiation:** maths is like a jigsaw, you need all the required pieces AND the skill to find the right piece at the right time and put it in the right place. Most students arrive with most of the pieces but will have pieces missing. Each student will be missing different pieces. Few students will have the skill, patience or perseverance to put the pieces together. This project aims to support teachers to provide the correct missing pieces to the right students and develop the skills required to apply their mathematical knowledge appropriately.
- **Approach to teaching:** building resilience in pupils who have "failed" and changing students' perception of mathematics and the job opportunities maths skills will open up for them. What implications does this have on what you offer in a retake course and how the course is approached by the teacher?
- **Length of retake course.** Does it have to be a year? Could it be two years? Content year one, skills year two.
- **The best frequency/length of lesson:** Some colleges have two one hour maths lessons per week, others have one two and a half hour lesson per week. What works best?
- **Is literacy of pupils** a limiting factor in maths attainment? Does comparing cohorts of pupils with level 3/4 in English highlight difficulties with maths attainment?

Each college taking part in the pilot will be assigned a consultant (a 'Mentor') to support the design and delivery of GCSE mathematics retake classes.

What are the benefits to participating colleges?

One of the biggest issues for FE colleges is the need to support students retaking mathematics GCSE. Students being labelled as 'failures' may have a detrimental effect upon their attitude towards learning in general. Whilst GCSE pass rates may be important to colleges it is important that a life-long learning culture is supported. The aim of this project is to help colleges develop learning models based upon developing reasoning skills and problem solving skills, making the student experience of mathematics in FE different to that experienced in school, to develop students' confidence in their mathematical ability and see the relevance of the subject to their lives.

To help achieve this each participating college will receive:

- Three half day CPD sessions for their mathematics staff, delivered by an expert Mentor;

- Attendance at an intensive, residential two day professional development conference for your mathematics lead;
- Support and guidance during the implementation phase of the project.

N.B. all delivery will be dependent on social distancing guidelines.

What commitment is required from participating colleges?

- Participation by the mathematics teaching staff in three half days of CPD delivered in your college by an expert Mentor in the spring term 2020. The training will consider what makes good maths teaching, developing reasoning skills, and developing problem solving skills;
- Attendance by the mathematics lead at a two day intensive residential conference in the summer term 2021. This experience will help mathematics leads to implement the ideas discussed in the training;
- Commitment to development of the approach to delivery of the mathematics GCSE retake course in the academic year 2021/22 for GCSE retake students;
- Training costs will be covered by the project but colleges will be liable for any costs associated with staff cover to attend training.

Eligibility criteria:

To be involved in this pilot project colleges must:

- Be willing to provide attainment, progression, and attitudinal data required to evaluate the project;
- Be offering GCSE mathematics retakes in the academic year 2021/22;
- Be willing to release teaching staff for the required CPD;
- Preference will be given to colleges where level 2 Maths is taught by a discrete group of teaching staff and managed separately to that of level 3 Maths

Expressions of interest:

To express an interest you should send a brief summary (no more than 500 words) of why you wish to be involved in this pilot project. **Emails should go to k.palmer@stem.org.uk and be clearly titled 'Maths in FE'**. This should also include a clear statement on your commitment to engaging with the CPD for the duration of the project as outlined above.

The **[deadline for receipt of expressions of interest is Friday 09 October 2020](#)**. All submissions will be acknowledged with a notification of receipt.

A decision will be made as soon as possible after receiving expressions of interest - colleges will be notified as to whether their submission has been successful no later than 14 October.

Enquiries:

Enquiries should be directed by email to:

Stephen Lyon, Mathematics Lead
s.lyon@stem.org.uk

STEM Learning Limited
National STEM Learning Centre
University of York



Heslington
York
YO10 5DD