

## Centres for Excellence in Maths: Teaching for Mastery in FE Research Project

### Teacher recruitment information

From September 2021, the government-funded Centres for Excellence in Maths programme ([www.etfoundation.co.uk/CFEM](http://www.etfoundation.co.uk/CFEM)) will involve an extensive research programme focusing on approaches to teaching for Mastery in FE colleges across the country. We are seeking to recruit 130 mathematics teachers, either from Centres for Excellence or their partner colleges, to take part in this Mastery in FE Research Project. All participants should be teaching GCSE resit classes for 16-18 year olds in the college year 2021/22 for at least part of their timetable.

This is an important, and possibly unique, opportunity to take part in a substantial government-funded research project investigating teaching mathematics in the FE sector. Approaches to teaching for Mastery have been explored in primary and secondary schools for a number of years now and this is an exciting development to be amongst the first FE teachers to benefit from accumulating knowledge that aims to improve mathematics teaching for all.

The research project will involve randomised control trials of teaching for Mastery with GCSE resit students in FE colleges. Teachers who participate in the research during 2021/22 will be randomly assigned to one of three groups:

*Group 1.* Teachers will aim to develop their expertise in teaching for Mastery in FE. They will be expected to do this by considering teaching for Mastery approaches exemplified by a set of sample lessons that they will teach to all their GCSE groups for 16-18s. They will attend two initial training events online, two further professional development events and take part in five cluster meetings with teachers from other colleges.

*Group 2.* Teachers will aim to develop their expertise in teaching for Mastery in FE and will use the same set of sample lessons as Group 1 with all their GCSE groups for 16-18s. They will attend one initial training event online and one further professional development event. They will not participate in cluster meetings or any training related to these.

*Group 3.* Teachers will be part of the control group and teach as normal. They will be able to access other CfEM professional development events and resources but not those specifically for teachers in Groups 1 and 2 of the Teaching for Mastery research project.

All activity is fully funded through the Centres for Excellence programme. This includes funding for the administrative work required to collect data.

Teachers in all three groups will be required to provide baseline data and undertake two short surveys (September 2021 and June 2022). A small number of teachers from each group may also be asked to take part in associated research, involving classroom observations and short interviews.

Teachers who apply and are allocated to Group 1 are advised against taking part in other projects concerning teaching and learning (including CfEM action research projects) at the same time since involvement in the cluster groups requires some considerable commitment. They should also be able to work in a different college *setting* to any other Mastery in FE research project teachers. A *setting*, for this purpose, is considered as a different college or a separate site within the same college. Applicants should liaise with their line manager and Centre Lead to ensure these conditions can be met.

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The assigning of teachers to the three groups will take place randomly. Teachers who apply will therefore need to commit to the full programme, even though those eventually allocated to Groups 2 and 3 will not be required to participate in all the elements.

Teachers will be notified of any fixed dates for training well in advance and there will be some flexibility in the dates of cluster group meetings.

The amount of funding available will vary, depending on the group to which a teacher is allocated, but will include allowances for administration and data collection as well as attendance at events and preparation time where appropriate. For the three different groups the allocation is up to £6300 for each Group 1 teacher, £4200 for each Group 2 teacher and £3000 for each Group 3 teacher.

Any queries about funding should be sent to ETF at [CfEM@ETFoundation.co.uk](mailto:CfEM@ETFoundation.co.uk) and all other queries should be sent to the University of Nottingham at [cfemadmin@nottingham.ac.uk](mailto:cfemadmin@nottingham.ac.uk).

## Signing up

The CfEM programme welcomes expressions of interest using the online sign-up form from mathematics teachers who work in a Centre for Excellence in Maths or one of their partner colleges. Before signing-up teachers in colleges not yet part of a CfEM network should first approach a senior manager in their college and commence the process of joining a specific network.

Participating teachers will need the approval of a senior (line) manager and should check with their CfEM Centre Lead that they can support their application. After completing the online sign-up form the teacher, Centre Lead and a senior manager will all be asked to sign a Memorandum of Understanding.

Teachers who are interested in participating in the research project should complete [the online form](#). These should be submitted by 1<sup>st</sup> May 2021 but teachers who are interested are advised to submit as early as possible.

## The role

All participants should be teaching GCSE resit classes for 16-18 year old students in 2021/22 and be able to work in a different *setting* to any other trial teacher. The role taken will differ depending on the group to which a teacher is randomly allocated. Teachers in Group 1 will be expected to:

1. Familiarise themselves with the CfEM key principles for Mastery (See [https://www.et-foundation.co.uk/wp-content/uploads/2020/03/CfEM\\_Mastery\\_Handbook.pdf](https://www.et-foundation.co.uk/wp-content/uploads/2020/03/CfEM_Mastery_Handbook.pdf)) and how these are applied in each of the sample lessons for the theme.
2. Participate in two days of online training (September-November 2021) and two further days of professional development (January-July 2022).
3. Develop teaching for Mastery approaches as exemplified in seven sample lessons that they should teach to all their GCSE resit groups.
4. Attend five cluster group meetings and contribute to discussions about the teaching approach.
5. Provide initial data about themselves and their classes to assist with planning the trials.

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6. Complete online teacher surveys in Autumn 2021 and Summer 2022.
7. Provide further feedback to ETF and UoN if necessary and/or take part in associated research if required, which may involve classroom observations and interviews.

Teachers in Group 2 will be expected to complete all the tasks except 4 but with a reduction in the training and professional development to one initial event plus one additional professional development event. Teachers in Group 3 will be expected to complete only tasks 5, 6 and 7.

### Tentative key dates

Activity	Date
Randomisation	09 July 2021
Information sheet/ privacy notice sent to students	15 September 2021
Deadline for colleges to submit student data	30 September 2021
Teacher baseline survey completion	01 – 15 October 2021*
Student baseline survey completion	01 – 29 October 2021*
Trial teacher CPD1 (Group 1 and Group 2)	6 October 2021 or 8 October 2021
Trial teacher CPD2 (Group 1)	13 October 2021 or 15 October 2021
Cluster meeting 1	1 November 2021 – 26 November 2021*
Cluster meeting 2	29 November 2021 – 17 December 2021*
Cluster meeting 3	06 January 2022 – 28 January 2022*
Trial teacher CPD3 (Group 1 and Group 2)	12 January 2022 or 14 January 2022
Student data update	03 – 31 January 2022*
Cluster meeting 4	31 January 2022 – 04 March 2022*
Cluster meeting 5	07 March 2022 – 01 April 2022*
Student post-intervention survey completion	18 April – 13 May 2022*
Teacher post-intervention survey completion	16 May – 30 June 2022*
Trial teacher CPD4 (Group1)	22 June 2022 or 24 June 2022*
GCSE results data collection	September – November 2022*

\* Between these dates

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## Research Participant Information (teacher)

The Centres for Excellence in Maths programme is a national government-funded programme that aims to improve outcomes in mathematics for students working towards GCSE results in the post-16 Further Education (FE) sector. From September 2021, this will include an extensive research programme involving randomised controlled trials across the country of approaches to teaching for Mastery in FE colleges.

Teachers who participate in the research during 2021/22 will be randomly assigned to one of three groups:

*Group 1.* Teachers will aim to develop their expertise in teaching for Mastery in FE. They will be expected to do this by considering teaching for Mastery approaches exemplified by a set of sample lessons that they will teach to all their GCSE groups. They will attend two initial training events online, two further professional development events and take part in five cluster meetings with teachers from other colleges.

*Group 2.* Teachers who aim to develop their expertise in teaching for Mastery in FE will use the same set of sample lessons as Group 1 which they will teach to all their GCSE groups. They will attend one initial training event online and one further professional development event. They will not participate in cluster meetings or any training related to these.

*Group 3.* Teachers will be part of the control group and teach as normal. They will be able to access other CfEM professional development events and resources but not those specifically for teachers in Groups 1 and 2 of the Teaching for Mastery research project.

The research team will investigate the effectiveness of the approach by gathering some data from you and your students. This will involve you being asked to complete a number of brief surveys during the year.

There is the possibility that your college will be selected as a case study college. In this case a researcher(s) may visit, and you may be asked to be interviewed and potentially observed teaching and taking part in other meetings.

The research team would very much appreciate your willingness to take part in the research. It has the potential to assist generations to come to experience better teaching in mathematics.

### Data Protection

In addition to this information sheet you will receive a research participant privacy notice which sets out the legal basis on which we at the University of Nottingham are collecting and processing data. This notice sets out how we will ensure your data is protected at all stages of the research through to its processing and further informs you of your right to withdraw at any time. Throughout the research your data will only be held on secure computer servers and whenever your data is transferred it will be done so using secure and encrypted transfer methods.

If you wish to withdraw from participating in the research, you may do so at any point until the final data is collected (31<sup>st</sup> October 2022) by contacting me in the first instance. Please see my contact detail in the participant privacy notice. Your data collected to that point will then be destroyed and no further data collected relating to you.

We do hope, however, that you are happy to participate given the potential that the research has to inform us how to improve teaching of maths.

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## Ethical issues

The research programme has approval from the University of Nottingham, School of Education ethics committee. Importantly we will ensure your anonymity at all stages and no survey or GCSE outcomes will be identifiable as belonging to you personally. In the case of any use of video for any purposes additional permissions will be sought from you.

If you require further information about the University of Nottingham Code of Research Conduct and Research Ethics, or if at any stage you have any concerns or complaints in relation to how you are being treated by the research process, please contact the Research Ethics Coordinator of the School of Education, University of Nottingham at [educationresearchethics@nottingham.ac.uk](mailto:educationresearchethics@nottingham.ac.uk)

If you would like any further information about the work of the CfEM programme in general or of the research programme in more detail please contact Kanchana Minson, the University of Nottingham CfEM project manager: [cfemadmin@nottingham.ac.uk](mailto:cfemadmin@nottingham.ac.uk).



Professor Geoff Wake

Director CfEM National Trials

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## Research Participant Privacy Notice (teacher)

### Privacy information for Research Participants

For information about the University of Nottingham's obligations with respect to your data, who you can get in touch with and your rights as a data subject, including, the right to request details of the personal data the University holds, or the right to rectify, object or raise concerns about its use, please visit: [www.nottingham.ac.uk/utilities/privacy/privacy.aspx](http://www.nottingham.ac.uk/utilities/privacy/privacy.aspx).

### Why we collect your personal data

The University collects personal data under the terms of its Royal Charter in its capacity as a teaching and research body to advance education and learning.

The personal data collected will be used in the Centres for Excellence in Maths programme. This programme aims to improve outcomes in mathematics for students working towards GCSE results in the post-16 Further Education (FE) sector.

### Legal basis for processing your personal data under UK GDPR

The lawful basis for use of your personal data in this project is found under Article 6(1e) of the United Kingdom General Data Protection Regulation (UK GDPR) - processing necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.

### Where the University receives your personal data from

We collect your personal data including your name, email address, telephone number, college's name and college's address from the teacher expression of interest form, the memorandum of understanding (MoU) and surveys. If you participate in case studies, audio/ video recording will be used to in the interviews.

### How we use your data

Data we collect from you will be used for the research purposes of tracking participation in professional development activities, conducting teacher practice surveys and identifying participants for further data collection and project evaluation. Audio/ video recordings and transcripts will be used in case studies in selected cases. These will be used to provide insights on how the intervention achieves its effect.

### Who we share your data with

The University will share your personal data with the Education and Training Foundation and the Centre for Excellence in Mathematics that your college belongs to for the purpose of tracking participation in the professional development programme.

In sharing data, the following data security measures shall be applied:

1. The Shared Personal Data will be transferred between the parties using the University of Nottingham CfEM SharePoint with AES 256-bit encryption.
2. The computers used for access are all password-protected and authenticated through the University's centralised Information Access Management system.

### How long we keep your data

In line with the University's retention schedule, your data may be retained in an identifiable format for up to 7 years after the research project finishes. The data may be retained for up to 25 years in an anonymised form.

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At all times, data will be treated with the strictest confidence. Our project data will be held on a secure password-protected SharePoint project partition with access provided to the team members and our administrative support, as well as specific IT support personnel. Version control and backup will rely on the built-in Microsoft tools.

The results of this research study may be disclosed in published works that are posted online or published in research articles/books for use by the scientific community. The data may subsequently be analysed for research purposes in the future whereby the University of Nottingham School of Education ethics approval will be sought. Any summary interview content, or direct quotations from the interview, that are made available through project reports, academic publication or other academic outlets will be anonymised so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed.

### **Right to request withdrawal of personal data from data processing**

If you would like to withdraw from data processing, you can do so at any point by contacting the CfEM National Trials Director in the first instance (details below):

Professor Geoff Wake  
School of Education,  
Jubilee Campus,  
University of Nottingham,  
Nottingham  
NG8 1BB  
[Geoffrey.wake@nottingham.ac.uk](mailto:Geoffrey.wake@nottingham.ac.uk)

Your data will then be removed from the UoN, ETF and Centre databases.

### **Contact details**

If you have any questions about this research, please contact our Project Manager, Kanchana Minson, at [cfemadmin@nottingham.ac.uk](mailto:cfemadmin@nottingham.ac.uk) or 0115 951 4438.

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If you require further information about data protection, please contact The University's Data Protection Officer.

Their postal address is:

Data Protection Officer,  
Legal Services  
A5, Trent Building,  
University of Nottingham,  
University Park,  
Nottingham  
NG7 2RD

They can be emailed at [dpo@nottingham.ac.uk](mailto:dpo@nottingham.ac.uk)

## Research Participant Information (student)

The Centres for Excellence in Maths programme is a national government-funded programme that aims to improve outcomes in mathematics for students working towards GCSE results in the post-16 Further Education (FE) sector. From September 2021, this will include an extensive research programme involving randomised controlled trials across the country of approaches to teaching for Mastery in FE colleges.

Your maths teacher is taking part in this research project, and the research team will investigate the effectiveness of the approach by gathering some data from you. This will involve you being asked to complete a number of brief surveys during the year and your GCSE outcome data being supplied to the researchers by your college.

There is the possibility that your college will be selected as a case study college. In this case a researcher(s) may visit, and you may be asked to be interviewed and potentially observed learning in the classroom. You will be informed by your teacher if this is happening and of course your participation in such interviews will be entirely voluntary.

At all times your identity will be kept anonymous. The research is interested in outcomes across those taking part not in the outcomes for individuals.

The research team would very much appreciate your willingness to take part in the research. It has the potential to assist generations to come to experience better teaching in mathematics.

### Data Protection

In addition to this information sheet you will receive a research participant privacy notice which sets out the legal basis on which we at the University of Nottingham are collecting and processing data. This notice sets out how we will ensure your data is protected at all stages of the research through to its processing and further informs you of your right to withdraw at any time. Throughout the research your data will only be held on secure computer servers and whenever your data is transferred it will be done so using secure and encrypted transfer methods.

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We do hope, however, that you are happy to participate given the potential that the research has to inform us how to improve teaching of maths for students in the future.

### Ethical issues

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### Legal basis for processing your personal data under UK GDPR

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### Special category personal data

In addition to the legal basis for processing your personal data, the basis for processing your sensitive personal data (ethnic origin) on this occasion is Article 9(2j) processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes

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### Where the University receives your personal data from

We collect your personal data including your Unique Pupil Number or Unique Learner Number, your name, your date of birth, your school email address and your ethnic group from your college. We will ask you to carry out a survey at the start and end of your GCSE maths studies and collect your GCSE examination results in summer 2022. If your college participates in a case study as part of the research, we may ask you to take part in audio/ video recordings and possibly interviews.

### How we use your data

Your data will be used for the research purpose of understanding teaching and learning as part of the research trial. The data may be linked with information about your national test/examination performance from the National Pupil Database (NPD). Audio/ video recordings and transcripts will be used in case studies which will provide insights on how the intervention achieves its effect.

Your data will be kept in an identifiable format in order to enable us to match it with GCSE data from the National Pupil Database. Thereafter, the data will be retained in a pseudonymised form. The research is interested in the combined performance of all students combined rather than that of individuals.

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## How long we keep your data

In line with the University's retention schedule, your data may be retained in an identifiable format for up to 7 years after the research project finishes. The data may be retained for up to 25 years in an anonymised form.

At all times, data will be treated with the strictest confidence. Our project data will be held on a secure password-protected SharePoint project partition with access provided to the team members and our administrative support, as well as specific IT support personnel. Version control and backup will rely on the built-in Microsoft tools.

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Their postal address is:

Data Protection Officer,  
Legal Services  
A5, Trent Building,  
University of Nottingham,  
University Park,  
Nottingham  
NG7 2RD

They can be emailed at [dpo@nottingham.ac.uk](mailto:dpo@nottingham.ac.uk)

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