

Teaching Further Mathematics 2 (TFM2)

TFM is a professional development course offered by the Further Mathematics Support Programme (FMSP) and certificated by Mathematics in Education and Industry (MEI). TFM consists of two units, TFM1 and TFM2. **This document provides information about the second unit, TFM2.**

TFM2 is currently offered from February – August each year. TFM1 is a prerequisite for TFM2.

TFM2 is a 7-month unit that follows on from the TFM1 unit, and covers the remaining further pure content of A level further mathematics. It is not possible to apply for TFM2 unless TFM1 has been studied previously. The TFM1 and TFM2 units enable teachers to teach topics on A level Further Mathematics exam specifications (England). The topics for TFM2 include:

<i>TFM2 Feb – August 2017 (legacy unit)</i>	<i>TFM2 Feb – August 2018 (reformed unit)</i>
<i>Polar coordinates Further matrices Numerical solution of equations First order differential equations Second order differential equations Vector geometry Group Theory</i>	<i>Polar coordinates Differential equations Further calculus Further matrices Further vector geometry Numerical solution of equations* Group theory*</i>
<i>Only applicable to continuing delegates that have enrolled on TFM1 before 2017</i>	<i>For delegates that have enrolled on TFM1 in January 2017 or July 2017</i>

The course fee for TFM2 is currently £300[§]

[§]The fee is **£200** for teachers currently working in a state funded school or college in England that offers A level Mathematics to post-16 students. The FMSP is funded through the Department for Education and as a result can only offer this subsidised fee to teachers working in state-funded schools or colleges in England.

Delegates enrolled on the TFM2 unit can expect:

- access to ten live online tutorials;
- to attend two study days, both held on Saturdays;
- to receive text books to support their studies
- access to online teaching and learning resources (integralmaths.org)
- email support from the unit tutor and access to an online group forum;
- a course certificate issued on successful completion of both the TFM1 and TFM2 unit assignments.

Online tutorials

TFM2 tutorials are scheduled in the evening on a week day (typically on Tuesdays). Typically an online tutorial is scheduled every two or three weeks and lasts for about 60-90 minutes per session. Dates and times for online sessions will be available at the start of the course and published in the TFM2 unit handbook. All live sessions are recorded providing an opportunity for delegates to revisit the content of the tutorials as many times as they wish.

Study days

There are two study days for TFM2. These will take place on Saturdays in March and July. The venues are likely to be the University of Warwick, NCVO London and / or the University of Cambridge.

TFM2 unit assignment

To qualify for a end of course certificate, a delegate will need to submit an assignment at the end of the TFM1 unit and the TFM2 unit. The TFM2 unit assignment, like TFM1, will be to submit handwritten solutions for an exam-style paper; producing a list of common student errors and misconceptions relating to each question on the paper. In addition, delegates will be required to give a brief outline of a teaching idea or resource for each question that could be used to address one or more of the errors and misconceptions listed.

TFM: Masters programme

TFM can be studied as part of a Postgraduate Certificate in Teaching Pre-University Mathematics (60 CAT points at Master level) through the University of Plymouth International Masters Programme.

IMPORTANT: It is only possible to study at Masters level if TFM1 enrolment starts in July. Delegates enrolling on TFM1 in January will not be able to study at Masters level.

There is more detail below about this option but this is not applicable to delegates enrolling on TFM1 in January

MA: Education (Teaching Pre-University Mathematics/and Statistics)

To undertake study at Masters level participants will also register on the International Masters Programme (IMP Education), which is a flexible modular M-level programme run by Plymouth University.

Satisfactory completion of TFM 1M will result in the award of 30 CAT points at M level. Satisfactory completion of both TFM 1M and TFM 2M will result in the award of 60 CAT points giving a **Post Graduate Certificate (Teaching Pre-University Mathematics)** which is one third of an MA (Education). More details of the Masters Programme can be found by visiting <http://www.plymouth.ac.uk/imp>

Participants on the Masters programme will study the mathematical content, teaching resources and pedagogy alongside those taking the MEI certificated course. They will also undertake additional reading and online tutorials; critically examining both the content of the curriculum and a range of theoretical perspectives on mathematics teaching, learning and assessment. At the end of each unit participants must submit

- handwritten solutions for an exam-style paper annotated with student misconceptions and teaching ideas (as required by the MEI certificated course)
- an essay (4000 to 5000 words) which is designed to give delegates scope to explore a topic from a specific perspective, to develop research and study skills, and to prepare for undertaking an MA dissertation.

Delegates who wish to undertake M level study will be required to pay additional course fees. These fees are currently £550 per unit on top of the MEI certificated course fees.

Applicants can choose whether to apply initially for TFM 1M only or to apply for both units.

Please note TFM 1M is a pre-requisite for TFM 2M.

On completion of TFM1M and TFM2M, delegates may choose to continue their Masters study through Plymouth University by selecting other courses in the International Masters Programme (IMP). Delegates who have existing Masters level credits may be able to transfer these across to Plymouth University.

Further information

The **Further Mathematics Support Programme** is a government-funded initiative, supported by the Department for Education and is managed by MEI. The aims of the FMSP are to:

- Increase participation in AS/A level Mathematics and Further Mathematics, particularly that of girls and those from other under-represented groups;
- Increase capacity within schools and colleges to provide high quality mathematics teaching;
- Increase demand from students to study AS/A level Mathematics and Further Mathematics post-16;
- Support improvements in level 3 mathematics education.

These aims support the principle that all state-educated students throughout England should be able to access the mathematics education they need to fulfil their aspirations. Find out more about the Further Mathematics Support Programme: www.furthermaths.org.uk

Mathematics in Education and Industry (MEI) is a membership organisation and a charity which since the 1960s has worked to support mathematics teaching and learning. Any income generated is used to support mathematics education. MEI pioneers the development of innovative mathematics qualifications and teaching and learning resources. MEI offers teachers of all GCSE and A level specifications a range of continuing professional development courses, provides specialist tuition for students and works with industry to enhance mathematical skills in the workplace. MEI manages the government-funded Further Mathematics Support Programme.

Find out more about Mathematics in Education and Industry (MEI):

www.mei.org.uk

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