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 prerequiste 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:

Polar coordinates
Differential equations
Further calculus
Further matrices
Further vector geometry
Numerical solution of equations*
Group theory*

**provisional content which may be subject to change when FM specifications have been accredited*

These topics feature in the further pure content of the reformed A levels in further mathematics (subject to accreditation by Ofqual) for first teaching in September 2017.

The course fee for TFM2 is £300§

§*Teachers working in state-funded schools or colleges in England are eligible for a subsidy which covers the cost of the full course fee (£300). The FMSP is supported by the Department for Education and therefore only teachers working in state-funded schools or colleges in England are eligible to receive a subsidy. At the end of the course, a rebate of £300 is paid out to cover the cost of the course. The rebate will be paid if there is evidence that the course delegate has engaged with the course content and has not withdrawn before the end date of the course unit. Evidence of engagement includes attendance of at face-to-face study days, participation in online tutorials and forum discussions and submission of the unit assignment issued at the end of the course.*

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 a text book 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 every two or three weeks. They are held in the evening on a week day (typically Tuesday) and last 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. 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.

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 with be required to pay additional course fees. In 2016/17 the masters fees were £550 per unit and it is expected that the fee will be the same for 2017/18. **The fee is in addition to 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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