Advanced Mathematics Support Programme

MEI® Because maths matters!

Teaching Discrete Mathematics

Academic year 2026–27

Course overview

Teaching Discrete Mathematics (TD) is an extended professional development course designed to support teachers delivering the discrete/decision content of AS/A level Further Mathematics

The course develops both subject knowledge and effective classroom practice, helping teachers build confidence and deliver engaging, coherent lessons in discrete/decision mathematics.

Features of the course:

- A structured programme of online sessions covering common discrete/decision mathematics topics in a logical sequence
- Two compulsory in-person study days to deepen understanding and explore teaching approaches
- Opportunities to explore problem-solving techniques and common student misconceptions
- Support for both new and experienced teachers
- Access to high-quality teaching resources and materials

Online session dates and information

Each session includes a mixture of subject knowledge development and discussion of effective teaching approaches for discrete/decision mathematics.

All online sessions will start at **16.30** on a **Thursday** and run for **75-90 minutes**. Although we encourage live attendance where possible, sessions are recorded and available for playback.

Session	Date
Introduction to the course and graph theory	17 September
Further graph theory	24 September
Algorithms on networks 1: Kruskal's, Prim's and Dijkstra's algorithms	8 October
Algorithms on networks 2: Route inspection and travelling salesperson	22 October
Critical path analysis	12 November
Algorithms: General principles, sorting and packing	26 November
Network flows	10 December
Linear programming 1: Graphical method	7 January
Linear programming 2: The simplex algorithm	21 January
Linear programming 3: Further simplex	28 January
Game theory	11 February

Scan the QR code or visit amsp.org.uk for more information and to register.

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Study day locations & dates

The study day will be in **London, NCVO** and will start at **10:00** and finish by **16:00**.

Study days focus on developing teaching approaches, building on the content covered during the online sessions. Teachers will experience a range of activities designed to deepen understanding, including practical work and the use of technology. The focus will be on strategies that can be applied directly in the classroom.

Teachers with a funded place are expected to attend both days, so please ensure that you will be able to arrange necessary cover before applying.

Study day	Location
One	**London, NCVO** Friday 6 November
Two	**London, NCVO** Friday 5 February

What will you gain?

Build confidence and expertise - Through ongoing support and guidance from maths experts, build confidence in teaching discrete/decision mathematics, including how to model real-life situations.

Deepen subject knowledge - Strengthen your understanding of discrete/decision mathematics topics, exploring how algorithms are applied across a range of optimisation problems.

Apply effective teaching strategies - Bring the subject to life by using practical activities and technology to help students understand how optimisation methods work in a range of contexts.

Quote

"Doing the practical activities at the study days and working with other people on the course helped to consolidate the learning, with the tutors around to help and support when stuck."

Eligibility - This course is free to state-funded teachers in schools and colleges in England; teachers from other establishments will have to pay a fee of £495 to attend. Priority will be given to teachers in state-funded schools and colleges.

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