

ITE Pre-Programme Information

Secondary Mathematics

Information for offer holders: How you can prepare for September

Talk to young people.

- Look at the tasks and ways of working in school (including primary and pre-school), get an understanding of the attitudes of young people towards maths and how they perceive society's attitudes.
- Find out what motivates them, what alienates them, what teaching practices they feel are helpful.
- Talk about behaviour management strategies with them, how they like to be treated, how they hate to be treated.

Ensure your mathematical knowledge is strong.

- Look at the national curriculum (Google it) and the A level/Further Maths curricula. At the higher end, revisit your A level and Further Mathematics studies (if you have it), and review the less familiar parts of the GCSE curriculum.
- There are hundreds of youtube videos providing instruction – when you watch them, think about the way the presentation approach, and whether you feel it is helpful.
- Almost more importantly, think about the lower end of the secondary school curriculum. Think how you would explain fundamental features of mathematics – fractions, place value, the use of letters instead of numbers etc.
- Review video instruction and think about how the problems are represented, and whether the representation is universally suitable.

Find out about pedagogical strategies.

- A very popular book among maths teachers is Craig Barton's *How I Wish I'd Taught Maths* and he has a podcast in which he talks with lots of very significant names in maths education.
- A different point of view will be understood by looking at any of Jo Boaler's videos or writings.

Institute of Education

- Andrew Pollard's *Reflective Teaching* is a more academic book, and is referred to often in the course.
- There is no single right way to teach, so you will gain something and dismiss something from everything you read.
- A dated but still valuable series of videos can be found on YouTube called *Teaching with Bayley* in which John Bayley visits teachers, videos weak practice and helps them find solutions.

Find out about resources.

There are hundreds of websites that offer mathematical materials, from online manipulatives (mathsbot.com) to worksheets (10ticks.com) to games, lesson plans, presentations and more.

One of the most comprehensive free instructional sites is DrFrostMaths.com, and most schools subscribe to an instructional platform such as mymaths or hegarty maths which have instructional videos, online homework, interactive features and more.

Immerse yourself in educational issues.

Our course is very focused on social justice and the ways in which many students are poorly served by a traditional maths education. You should be aware of policy changes that affect schools, teachers and students, as well as curriculum decisions, Ofsted focuses, multi-academy trust trends etc.

You will be able to get low cost membership to organisations like the Association of Teachers of Mathematics, and the Mathematical Association, and many join a union like Education, which provides regular reviews of information of relevance.

And most important:

Practise teaching. Work with young people or adults and develop your modelling and explanatory skills. Think about how you know if your teaching has been effective, and what questions to ask. If you have access to a large whiteboard practise writing on it in a legible and ordered way. Practise your voice projection and teacher tone. Prepare a sober wardrobe for when you're in school and break in some comfortable shoes.