

NEW: RETHINKING AND REDESIGNING THE SECONDARY MATHS CURRICULUM AS A PATH FROM Y7-11

CODE 8312

ABOUT THIS COURSE

At KS1-2, school mathematics has a fairly predictable shape each year (place value, whole number arithmetic, measures, fractions, decimals, geometry). This changes dramatically at KS3-4, with new abstract ideas and methods round every corner: these often fragment into separate topics – making it hard for students to see the underlying unity of the discipline. This course takes a step back, giving delegates an opportunity to take a fresh look at the progression of all students from Year 7 to Year 11 (and beyond).

PROGRAMME

Secondary mathematics: past, present, and future.

What needs to change?

- What remains at the core? Why is it important? And for whom?
- What are the key mathematical goals for Years 11 (and beyond)?
- How does KS1-2 “mastery for all” support this secondary core?
- Filling in the details: the main strands, and the key links between them

Discussion: coffee break

A DIY session for pairs: starting from the National Curriculum to develop a specific strand for Years 7-11

- Extract and organise the content from the specification
- Identify the connections (horizontally and vertically over time)
- Begin to plan a detailed Programme of Study

Lunch and informal discussion

A communal DIY session: developing a KS3-4 sequence starting from a preliminary detailed outline of a different strand

- Identify key mathematical themes – where does it end?
- Identify the main challenges for different groups of students
- Establish the links between topics
- Devise a detailed Programme of Study (possibly differing for different groups)

The wider context

- Secondary mathematics in other countries, in other subjects, and its use in the workplace
- Problems; applications
- Didactics (structure, variation, etc.) the nuts and bolts of
- Extension versus acceleration, how to bring depth to your curriculum
- Resources to support both curriculum development and teaching content

TIME

10.00 – 11.15am

11.15 – 11.30am

11.30 – 12.45pm

12.45 – 1.45pm

1.45 – 3.00pm

3.00 – 3.45pm

LOCATION/DATE

London

Friday 29 January 2021

COURSE LEADER

Tony Gardiner is a mathematician, married to a teacher, who has worked with students and teachers for 50+ years. He was part of the SMP 11-16 curriculum development project; started the national pyramid of Challenges, Olympiads, and summer schools for interested secondary students; published the Problem Solving Journal for secondary students; ran the National Mathematics Teachers' Summer School; and has published around 30 books of materials for students and teachers. He received the 1995 Paul Erdős Award, and the 2016 International Award for Excellence in Mathematics Education.

WHO SHOULD ATTEND?

- Heads of Mathematics
- Other interested mathematics teachers
- LA and Academy chain advisers

BENEFITS OF ATTENDING

- First step in building a powerful curriculum from years 7-11
- Insights into maths concepts and linking topics
- Opportunity to reflect and review on current models and structures
- Understanding of how it links with KS2 and KS5
- Leave with a framework for a full secondary Maths curriculum, including intent, implementation and impact