

Big Ideas in A level Mathematics

Aim

Three 1-day courses designed to support teachers in their early years of teaching A level Mathematics looking at some of the big ideas in more depth. The course will give participants a deeper understanding of the concepts underpinning A level Mathematics and an appreciation of how they form a coherent set of ideas.

Dates

All days run from 10am to 4pm, unless otherwise stated.

| | Autumn: Day 1 Algebra | Spring: Day 2 Calculus | Summer: Day 3 Trigonometry |
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| South East | Sat 21 Nov 9.30am – 3.30pm | Thurs 18 Mar | Weds 7 July |
| North West | Mon 7 Dec | Sat 27 March | Fri 9 July |

Venues

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| South East Richmond upon Thames College, Egerton Road, Twickenham, Middlesex TW2 7SJ Tel: 020 8607 8000 http://www.richmond-utcoll.ac.uk/ Contact at venue: Sarah Bucknill sarah.bucknill@rutc.ac.uk | North West Westhoughton High School, Bolton Road, Westhoughton, Bolton BL5 3BZ Tel: 01942 814 122 www.westhoughton-high.bolton.sch.uk/ Contact at venue: Andy Dalton-Bunker BunkerA@westhoughton-high.bolton.sch.uk |
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Overview of the three days

Each day will consist of four 60-75 minute sessions, looking at A level concepts in close detail, with teaching ideas, and introducing related topics just outside the scope of A level. The three days are independent of each other.

Ideas covered include

Algebra

- The importance of the binomial theorem: infinite series and limits
- Analytical methods for solving cubic and quartic equations
- Proof and multiple representations: graphical and diagrammatical insights
- The fundamental theorem of algebra: the importance of linear and quadratic factors

Calculus

- Limiting processes
- The fundamental theorem of calculus
- Why natural logarithms really are natural
- Insights into calculus through the use of ICT
- Differential equations: the main reason for studying calculus?

Trigonometry

- What exactly is the sine function?
- Evaluating pi to any number of decimal places
- Visualising trigonometric functions: the role of pictures
- Insights into trigonometry through the use of ICT



‘Big Ideas in A level Mathematics’

Booking Form

Cost: £100 for one day, £180 for two days, £250 for three days

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| Name:..... |
| Contact telephone number: |
| Email address: |
| Please detail any special dietary requirements: |
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| Please indicate the days and venues you will be attending: |
| North West: Day 1 Day 2 Day 3 |
| South East : Day 1 Day 2 Day 3 |
| Payment details. |
| Option 1. I enclose a cheque for £100/£180/£250, made payable to MEI. |
| Option 2. Please invoice my school/college: |
| Address of School/College:..... |
| |
| |
| Telephone Number:..... |
| Purchase order number (where necessary): |

Please return this form to:
Valerie Algar, MEI Office, Monckton House, Epsom Centre, White Horse Business Park, Trowbridge,
Wiltshire. BA14 0XG. Tel 01225 776776 Fax 01225 775755 office@mei.org.uk
Places will be confirmed by email.