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MATHS

TEACHER COURSES

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NEW Student Revision Conferences



GCSE MATHS: ENSURING GRADES 4 AND 5

NEW

CODE
7188

Revised in light of the 2018 GCSE exams, the focus of this conference is to support students in securing their Grades 4 and 5 in their GCSE Mathematics examination. Students will develop the skills required for problem solving approaches, enabling them to access problems, have the skills to meet the challenges of answering Grade 4 and 5 questions and be able to present their solutions to examiners clearly.

> DATES

Manchester Monday 25 February 2019

London Monday 25 March 2019

> PRESENTERS: Neil Donlan, Will Rigby



GCSE MATHS: ACHIEVING GRADES 7 TO 9

NEW

CODE
7189

The focus of this NEW revision conference is to support students in securing their Grade 7 and work towards achieving higher grades in their GCSE Mathematics examinations. Following the first two years of these examinations, this conference will focus on challenging areas, and support students to develop the expected skills required for problem solving approaches to solutions. This will enable them to access higher tiered problems and be able to present their solutions in a coherent manner.

> DATES

Manchester Tuesday 19 March 2019

London Thursday 28 March 2019

> PRESENTERS: Neil Donlan, Will Rigby

Outstanding Departments



Call our team to find out more about:

- Expert, subject specific advice on ways to strengthen and improve your teaching and learning
- Research-based ideas and methods that make sure students achieve at least their target grades
- Making sure your department is working consistently and to the right standards
- Creating consistency of approach and achievement across your whole school
- Tailor-made support for your department's specific needs or concerns

For more information contact us on **01625 532974** or email us at online@keynote.org.uk

MATHS

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> ABOUT THIS COURSE

We are pleased to announce this new course on how to extend problem solving in your school. This is a practical day exploring approaches and resources to support the development of learner problem solving and the culture of depth within your maths lessons and department. You will leave with a greater understanding and level of confidence in delivering learning for depth. You will take away ready to use strategies and resources to enhance your teaching and that of your department immediately.

> DATES

London
Tuesday 20 November 2018

London
Thursday 28 February 2019

> PROGRAMME

TIME

Common themes explored to deepen learning and problem solving skills 10.00 – 11.00am

- Reverse teaching
- Concrete → Pictorial → Abstract
- Literacy underpinnings
- Questioning for higher understanding
- Lesson structures – no bolt-ons

Discussion: coffee break 11.00 – 11.15am

Practical examples explored 11.15 – 12.00pm

- Inequalities, Equations and Simultaneous equations
- Algebraic fractions
- Surds

Bar Modelling power 12.00 – 12.45pm

- Exploring the concept in depth
- Resource links that enable progress and deepen understanding
- Applications for learners

Lunch and informal discussion 12.45 – 1.45pm

Data rich 1.45 – 2.30pm

- Cracking worded problems with your learners
- Developing learner responses to improve problem solving skills

Discussion: afternoon tea 2.30 – 2.45pm

Resource exploration and personal application 2.45 – 3.30pm

- An exploration of resources which allow for excellent development
- Applying these to your setting
- Formulating next steps for implementation and improvement

Final questions and depart 3.30 – 3.45pm

> COURSE LEADER

Neil Donlan is Assistant Principal at the JCB Academy and Director of Student Performance. He is an Outstanding practitioner of Maths, with vast experience leading the transformation of Maths departments, improving several seriously underperforming departments.

> WHO SHOULD ATTEND?

- > Maths teachers, Lead practitioners, Heads/Directors of maths

> BENEFITS OF ATTENDING

- > Obtain innovative but practical methods and ideas that improve problem solving skills
- > Learn how to embed depth in both teaching and learning in your school
- > Gain advice about methods which are proven to have worked, including in challenging centres
- > Develop high quality resources and teaching plans





> ABOUT THIS COURSE

A practical workshop to explore teaching approaches and misconceptions for key areas of the maths curriculum as well as develop your own understanding. Become more confident in your understanding of key content areas at both tiers to enhance your delivery to, or support of, learners. Walk away with ready to implement ideas and resources and confidence to implement them.

> DATES

London
Tuesday 30 October 2018

London
Friday 25 January 2019

> PROGRAMME

TIME

Exploring the Fundamentals of the subject

10.00 – 11.00am

- Consider the key areas of the subject with which non-specialists struggle
- Barriers to learning and engagement for students in Maths
- Explore areas of need for students and teachers
- Determine the underpinning misconceptions / subject wide issues and how to overcome them
- Research ideas for improving your own understanding of the key topics

Discussion: coffee break

11.00 – 11.15am

Use of algebra

11.15 – 11.45am

- Fundamentals of good teaching of algebra
- Key aspects of the topic
- How to ensure student understanding of the principles of algebra and how they can use these

Geometrical reasoning

11.45 – 12.30pm

- Explore what is meant by 'geometrical reasoning'
- How to teach this to the appropriate standard
- Ensuring student progress – assessment techniques that work

Lunch and informal discussion

12.30 – 1.30pm

Proportional understanding

1.30 – 2.15pm

- Key issues for teaching proportional understanding well
- Where students struggle on this topic
- Explore teaching and learning ideas for ensuring student progress on proportions

Statistical misgivings

2.15 – 3.00pm

- What students misunderstand on statistics
- Teaching ideas to strengthen understanding and maintain progress

Discussion: afternoon tea

3.00 – 3.15pm

Application in the classroom

3.15 – 3.45pm

- Plan for upcoming topics with Neil's expert support and using experience and resources explored throughout the day

> COURSE LEADER

Neil Donlan is Assistant Principal at the JCB Academy and Director of Student Performance. He is an Outstanding practitioner of Maths, with vast experience leading the transformation of Maths departments, improving several seriously underperforming departments.

> WHO SHOULD ATTEND?

- > All non-specialists teaching GCSE Maths

> BENEFITS OF ATTENDING

- > Explore key topic areas and how to teach them with confidence
- > Develop understanding of how to scaffold and extend student learning
- > Complete practical activities which you can then utilise in the classroom
- > Consider effective resources and approaches for teaching Maths with confidence



**> ABOUT THIS COURSE**

This NEW course offers a practical and reflective workshop to enable enhanced progress from learners whilst reducing teacher workload. Develop critical strategies to embed assessment and feedback and make it a successful part of the culture of learner experience in your maths department, through a course which will re-energise your department, showing ways it can be re-focused led by an expert in both Maths and creating outstanding departments.

> DATES

London
Tuesday 06 November 2018

London
Tuesday 22 January 2019

> PROGRAMME**TIME****Explore and develop the Curriculum model**

10.00 – 10.45am

- How to consider, develop and improve the curriculum and its impact on for a successful feedback culture

Planning approach

10.45 – 11.30am

- Enhancing the approach to planning a learning series
- Producing sessions that have assessment and feedback at their heart
- How to introduce a planning culture across the department

Discussion: coffee break

11.30 – 11.45am

Feedback culture and learner response

11.45 – 12.45pm

- Embedding the culture of feedback, within your context, to develop greater ownership and quality in learner response and its capture
- Evidence that demonstrates the success of the feedback culture for motivation, results and on staff workload

Lunch and informal discussion

12.45 – 1.45pm

Smart assessment and marking impact

1.45 – 2.30pm

- A practical approach to ensure that assessment and marking has high impact without unrealistic expectations for teacher workload
- Working examples

Discussion: afternoon tea

2.30 – 2.45pm

Applying this in your school

2.45 – 3.30pm

- Explore how to implement these approaches on your return to school
- Examine resources that facilitate the implementation of a feedback culture
- Final Questions and Answers

> COURSE LEADER

Neil Donlan is Assistant Principal at the JCB Academy and Director of Student Performance. He is an Outstanding practitioner of Maths, with vast experience leading the transformation of Maths departments, improving several seriously underperforming departments.

> WHO SHOULD ATTEND?

- > For current or aspiring Heads/ Directors of maths, second in maths, maths lead practitioners or others with responsibility for assessment and progress in maths.

> BENEFITS OF ATTENDING

- > Explore an assessment and feedback approach that has been demonstrated to improve results and reduce teacher workload
- > Gain a full understanding of how to implement an assessment and feedback culture
- > Explore resources and teaching methods which improve learner understanding
- > Investigate methods to bring a planning culture to whole school Maths learning
- > Take back evidence of the assessment culture's success to your school

> IN SCHOOL INFO

This course, tailored to suit, can be delivered in your school. Discuss this further with our CPD team on 01625 532974 or online@keynote.org.uk

> COST: £269+VAT



> ABOUT THIS COURSE

This course will aim to make new A-level teachers aware of the scope and depth of the new A-level course and the various opportunities and challenges that arise from it, to ensure high quality teaching and results.

> DATE

London
Wednesday 21 November 2018

> PROGRAMME

TIME

Topics in A-level Maths and how they are presented

10.00 – 11.00am

- Identify the challenges of teaching A-level Maths
- Consider specification content and assessments and what this means for your teaching
- How to teach lessons with structure and how to use resources accordingly
- Strategies and teaching methods to get students to analyse key concepts within context-based pure questions
- Effective and appropriate assessment to track progress and get students working at the right level

Discussion: coffee break

11.00 – 11.15am

Getting to grips with the pace of the course

11.15 – 12.30pm

- Planning your teaching week by week
- Co-ordinating conversations with colleagues about topics
- Trouble shooting as a department
- Making effective teaching notes with comments and detailed plans
- How to use the internet to your advantage
- The challenges of differentiation with the specification's pace and depth

Lunch and informal discussion

12.30 – 1.30pm

Getting to grips with Applied Maths

1.30 – 2.30pm

- Preparing effectively for Statistics
- How to use the new Whizzkid calculator to good effect
- Binomial Distribution and Hypothesis testing
- How to engage students with Mechanics
- Connected particles and pulleys

Year 2 – what happens?

2.30 – 3.30pm

- Step up from Year 1 to 2 for Pure and Applied – what is the additional content and challenge?
- How to prepare effectively for Year 2 during Year 1: for you and the students
- How to reflect on teaching practice during Year 1

Plenary

3.30 – 3.45pm

- Share suggestions for the next steps in your teaching

> COURSE LEADER

Ash Sharma is an experienced A-level Maths Teacher who has taught the course for 5 years in the 'Outstanding' rated Reigate College in Surrey.

> WHO SHOULD ATTEND?

- > Teachers new to teaching A-level Maths
- > Teachers who need to develop their teaching practice beyond GCSE
- > NQTs who wish to develop their profile
- > Teachers who do not have a post-16 qualification in Mathematics and wish to teach A-level

> BENEFITS OF ATTENDING

- > Gain insight into the challenges of the New A-level specification
- > Find out new ways to teach Pure and Applied Maths
- > Take away useful lesson planning resources and ideas
- > Increase your knowledge of Applied Mathematics
- > Learn how to use technology and the internet to develop learning in the classroom





> ABOUT THIS COURSE

The focus of this exciting and interactive new course is on helping students achieve the very highest grades in their A-level mathematics exams. The course provides high level and proven classroom teaching and learning activities along with best practice guidance in revision and exam preparation to ensure that students develop the depth of understanding and necessary confidence to achieve at the very highest level. Presented by an internationally renowned mathematics expert and using feedback from 2018 examinations, you will receive the highest quality advice, guidance and models for ensuring students achieve A*.

> PROGRAMME

TIME

Introduction – establishing the standard

10.00 – 10.30am

- Feedback and reflections on A* and A grades in 2018
- The demands of A* A-level Mathematics and essentials for success
- Barriers to achievement / identification of issues – what differentiates the very highest levels
- Establishing curriculum coverage, independent learning – what A* students need to demonstrate in order to attain the highest marks

Teaching Functions and Graphs to the most able students

10.30 – 11.15am

- Explore teaching strategies which enable A* students to gain full understanding of functions and graphs
- Teaching for a deep and connected understanding of polynomial, exponential, logarithmic and trigonometric functions and graphs
- Consideration of exam questions and model solutions

Discussion: coffee break

11.15 – 11.30am

Algebra and Calculus

11.30 – 12.30pm

- Assessment for learning on algebra and calculus – making sure that students make progress throughout the entire course
- Teaching and learning strategies for high level students on gradient functions, differential equations and integration
- Explore example answers with commentaries: what must students do to obtain the very highest marks on algebra and calculus

Vectors and proof: obtaining the highest marks

12.30 – 1.00pm

- Getting it right and getting the big picture: teaching vectors and proof to enable students to obtain A* grades
- Moving from 2 to 3 dimensions. Methods of proof with multiple examples for teaching throughout the A-level course
- Feedback on 2018: making sure A* students do not miss out on key marks

Lunch and informal discussion

1.00 – 2.00pm

Examination preparation and technique

2.00 – 3.00pm

- Use of past papers, mark schemes and examiners reports to appreciate what is required at A-level for A*
- How both teachers and students can make productive use of these to ensure the highest marks
- Optimising every question with essential working: rigorous checking and review, habits developed throughout the course
- Producing explanations and workings that gain full marks

Discussion: afternoon tea

3.00 – 3.15pm

Ensuring students achieve A*

3.15 – 3.40pm

- Excellent teaching and resource usage to stretch and challenge top level students
- Embedding and exploiting technology for A* students and creating motivated independent learners
- Going further with AS Further Mathematics
- What works well, where and why – proven techniques for pushing high ability students even further

Plenary, course evaluation and depart

3.40 – 3.45pm

> DATES

London

Tuesday 20 November 2018

London

Thursday 31 January 2019

> COURSE LEADER

Mick Blaylock is currently teaching part-time at Manchester Metropolitan University and working freelance in Mathematics education as researcher, consultant and trainer. He taught Mathematics for over 20 years in five different very different institutions, with subject leadership responsibilities in the last four before becoming an HMI in 2002.

> WHO SHOULD ATTEND?

- > Mathematics subject leads
- > Teachers with leadership responsibility for KS5 Mathematics
- > Teachers of A level mathematics
- > Prospective teachers of A-level Mathematics

> BENEFITS OF ATTENDING

- > Gain a full understanding of what students need to do to secure the highest A-level grades
- > Investigate key teaching and learning strategies for student to optimise their performance in the exam
- > Develop excellent teaching resources and ideas, which will allow high level students to work as independent learners and obtain excellent final results
- > Review excellent exam answers which demonstrate the very highest A-level Mathematics standard
- > Explore excellent strategies which enable A* students to make high level connections in depth across the specification content and assessments



> ABOUT THIS COURSE

The focus of this new course is on helping those students for whom A-level Mathematics might be a struggle in terms of achieving their best possible result. The course will provide excellent advice and guidance on best practice classroom teaching and learning activities and ideas that ensure students develop the understanding and confidence to succeed. Presented by an internationally recognised expert on Mathematics, you will gain excellent ideas, supported by feedback from the 2018 examinations.

> PROGRAMME

TIME

Introduction	10.00 – 10.15am
<ul style="list-style-type: none"> Welcome and Introductions Feedback on 2018 – the key issues which prevented and encouraged student success in the exams 	
Identifying the issues	10.15 – 11.15am
<ul style="list-style-type: none"> The challenges of A-level mathematics and essentials for success for lower attaining students Secure transitioning from GCSE Barriers to achievement and identification of issues – key factors for teachers to help student motivation and progress The basics: curriculum coverage, resources, use of technology/calculator, and exam preparation for lower attaining students Developing confidence in algebra, trigonometry and calculus Supporting lower attaining students and developing independent learners 	
Discussion: coffee break	11.15 – 11.30am
Challenging topics 1 - Functions and graphs	11.30 – 12.00pm
<ul style="list-style-type: none"> Getting it right and getting the big picture – key challenges for students in understanding Functions and Graphs at A-level Progression from GCSE to develop confidence in working with polynomial, exponential, logarithmic, and trigonometric functions and graphs Consideration of exam questions and model solutions: feedback from 2018 to demonstrate the standard to which students should aspire 	
Challenging topics 2 - Algebra and Calculus	12.00 – 12.30pm
<ul style="list-style-type: none"> Investigate why algebra and calculus are challenging to A level students Teaching methods to ensure progress on Algebra and calculus Making sense of differentiation and integration through technology, including use of calculators and freely available software Mark example answers; how best to use these within your teaching 	
Challenging topics 3 - Vectors and proof	12.30 – 1.00pm
<ul style="list-style-type: none"> Moving confidently from 2 to 3 dimensions. Feedback from 2018 on vectors and proof: how to improve student understanding and progress through ongoing assessment Obtain model answers demonstrating the standard to which students should aim in their exams 	
Lunch and informal discussion	1.00 – 2.00pm
Examination preparation and technique	2.00 – 3.00pm
<ul style="list-style-type: none"> Use of past papers, mark schemes and examiners reports to identify accessible marks for lower attaining candidates at A-level How both teachers and students can make productive use of these Developing good habits throughout the course Understanding the questions and getting explanations correct: teaching techniques that ensure student confidence in exams Sound examination technique to optimise performance 	
Discussion: afternoon tea	3.00 – 3.15pm
Question and Answer session: An opportunity to consider	3.15 – 3.40pm
<ul style="list-style-type: none"> Textbooks and other resources: which and how to use for the most effective teaching Independent learning – best practice teaching methods to ensure ongoing motivation and final success Providing additional support to promote student progress 	
Plenary, course evaluation and depart	3.40 – 3.45pm

> DATES

London
Tuesday 11 December 2018

London
Friday 08 February 2019

> COURSE LEADER

Mick Blaylock is currently teaching part-time at Manchester Metropolitan University and working freelance in Mathematics education as researcher, consultant and trainer. He taught Mathematics for over 20 years in five different very different institutions, with subject leadership responsibilities in the last four before becoming an HMI in 2002.

> WHO SHOULD ATTEND?

- > Mathematics subject leads
- > Teachers with leadership responsibility for KS5 Mathematics
- > Teachers of A level mathematics
- > Prospective teachers of A-level Mathematics

> BENEFITS OF ATTENDING

- > Gain a better understanding of what candidates need to do to secure their highest possible A level grade
- > Learn how Mathematics A level papers are marked to better understand how candidates should present their working and ensure success in the exams
- > Key strategies for students to optimise their performance in the exam
- > Develop your understanding of intelligent use of technology to enhance both the teaching of A level Mathematics and students' use of calculators in an examination
- > Further appreciation of the importance of teaching for understanding and the opportunities for making connections within mathematics, especially with the new terminal examinations



> ABOUT THIS COURSE

“Core Maths is the single most important initiative in post-16 mathematics in a generation.”

Professor Paul Glaister, Reading University

... for work, study and life ...

This is an interactive course which reflects on the first four years of teaching this new qualification*, and makes use of specific feedback from the 2017 and 2018 examinations. Delegates will explore teaching approaches for the Core Maths content of all the Assessment Boards as well as working on strategies to support problem solving; mathematical reasoning; and cross curricular and cross phase applications. Consideration will also be given to the position of Core Maths content in the 2020 T levels.

* Centres may be entitled to receive additional funding per student from the DfE for delivering this qualification.

> DATE

**London
Thursday 25 October 2018**

> COURSE LEADER

Will Rigby: Regional Advisor for the DfE Core Maths Support Programme in the North of England (including many of the Maths Hubs), and vastly experienced mathematics teacher from KS2-5. Secondary Mathematics Advisor to MAT's, LA's and governments.

> PROGRAMME

TIME

Introducing Core Maths into your centre

10.00 – 11.15am

- DfE funding, The Professor Adrian Smith review and the cross-curricular and cross phase value of the qualification
- Timetabling and identifying the students and teachers for Core Maths provision
- Exploring the Assessment Boards' content and considering online resources; text books and exam papers from different boards

Discussion: coffee break

11.15 – 11.35am

Teaching the content to different abilities of student and combining with other subjects

11.35 – 12.30pm

- What went well in the summer?
- Common areas where students lost marks and how to overcome this
- Marking and reviewing example answers: how to ensure students can meet the assessment standard
- Approaches for teaching that really work: supporting students' understanding through the use of mathematical modelling and images
- Designing learning to develop fluency and reasoning

Lunch and informal discussion

12.30 – 1.30pm

High quality resources that encourage success

1.30 – 2.30pm

- Expert guidance on what makes a good resource and how you can support student progress
 - Designing resources to ensure student progress: group activity to ensure sufficient modelling
 - Group consideration of available resources and how these can be utilised fully to support teaching and learning*
- * laptops and internet access needed

Afternoon coffee break and opportunity for further discussion and questions

2.30 – 2.45pm

Developing problem solving for Key Stage 5

2.45 – 3.45pm

- Improving student progression and assessment in problem solving
- Designing a curriculum that works from Key Stage 3, to enhance student understanding and progress
- Supporting and developing cross-phase problem solving and the use of pre-release materials
- Embedding problem solving in all Maths lessons
- Conclusions from today and next steps

> WHO SHOULD ATTEND?

- > Heads of Maths Department or Teachers of Level 3 Maths qualifications
- > GCSE Maths teachers
- > NQT teachers of any level 2 or 3 Maths qualification and non-specialist Maths teachers
- > Returning teachers
- > Members of the SLT responsible for KS5 Mathematics progression in their school or college
- > Teachers of other Level 3 subjects which have Mathematical content

> BENEFITS OF ATTENDING

- > Inspiration and structures to consider how we design learning of this new qualification in your own centre
- > Gain strategies for teaching Core Maths for either 1 year or two
- > Take away resources to exemplify the content and strategies discussed
- > Consider the integral role played by 'fluency, reasoning and problem solving' throughout the mathematics curriculum and how to incorporate these into AS Core Maths
- > Embedding Core Maths materials into years 9-11 to help develop the above



> ABOUT THIS COURSE

This course will focus on strategies, resources and techniques for those teaching GCSE mathematics for the first time. Through the day we will explore a range of types of resources in key mathematical topics (including algebra and ratio and proportion) as well as the new to GCSE topics, and consider what the benefits of different resources and questions might be. Each session will also include key revision strategies to us in class.

Participants in the course will leave with new ideas, new resources ready to use and the understanding to create their own resources as a custom fit for their own classes.

> DATE

London
Thursday 18 October 2018

> PROGRAMME

TIME

Overview: Subject Content of the GCSE specification

10.00 – 11.00am

- Understanding the structure of the GCSE and the progression through the course
- How the specification fits together within Foundation and Higher Tiers
- How to interpret the mark schemes, examination demands and the depth of the questions to plan appropriate teaching approaches
- Engaging with example questions and exemplar student material

Discussion: coffee break

11.00 – 11.20am

Teaching the foundation tier for the first time

11.20 – 12.40pm

- Teaching strategies to support foundation tier students access key topics that were previously only taught at higher tier
- Teaching trigonometry, top end algebra (simultaneous equations), percentages and ratios
- Different questioning techniques at Foundation Tier to encourage mathematical thinking, improve understanding and support progress
- Questions and short tasks to stretch and support students when revising

Lunch and informal discussion

12.40 – 1.40pm

Teaching Higher Tier Maths for the first time

1.40 – 2.50pm

- Teaching strategies to help higher tier students access additional, more challenging topics, for example:
- Quadratic sequences and equations, including completing the square and algebraic proofs
- More advanced questioning techniques to encourage deeper mathematical thinking, improve understanding and support progress at Higher Tier
- Explore tasks to support GCSE students in making connections between different areas of mathematics
- Strategies for sequencing questions to encourage students to see the mathematical structure as they work on a task
- Effective higher tier revision skills

Discussion: afternoon tea

2.50 – 3.00pm

Teaching for problem solving and final discussion

3.00 – 3.50pm

- We will consider what it means to get better at problem solving and how to support students as they struggle with a problem
- Develop examination technique for unstructured, high mark questions such as 'explain your answer questions'
- How to get students to break down and interpret a problem well
- The session will be followed by a brief discussion and summary of the day

> COURSE LEADER

Richard Perring is a maths teacher and consultant working and has also worked for the NCETM. He has also worked on a wide range of projects for organisations including Pearson, Hodder, Bowland Maths and Lasalle Education.

> WHO SHOULD ATTEND?

> NQTs

> Those new to teaching GCSE mathematics

> BENEFITS OF ATTENDING

> Develop teaching and learning strategies for key, carefully selected Foundation and Higher Tier GCSE topics

> Take away a range of revision strategies and resources for effective GCSE teaching

> Understand the assessment demands at GCSE

> Engage with exemplar student material and example questions

> Prepare students to score highly on the multi-mark, problem solving questions

> Explore tasks and teaching strategies to get students to think deeply about the mathematics and make connections across topics

**> ABOUT THIS COURSE**

The focus of this new course, led by our expert Maths presenter, is on teaching and learning strategies, with fresh approaches to familiar content that engages and helps disaffected/weaker learners develop the confidence to succeed in their GCSE Maths retakes.

> PROGRAMME**TIME****Introduction**

10.00 – 10.20am

- Reflections on GCSE resit policy and associated challenges
- Impact of the new GCSE and numbered grades on lower ability students
- Making GCSE resit mathematics a different experience to Year 11 GCSE
- The basics: curriculum coverage, resources, collaborative and independent learning, use of calculator, exam preparation

Key content and concepts

10.20 – 1.00pm

Each of the key content and concepts sessions will include an overview of where the topics fit within a GCSE resit course and numerous tips both for teaching and for answering examination questions.

Key content and concepts 1 – Number and Ratio

10.20 – 11.00am

- Building confidence with numbers, decimals, fractions, percentages, surds
- Use of the number line
- Making mathematics meaningful: lessons from Realistic Mathematics Education
- Use of images in tackling proportion and rates of change problems
- Consideration of exam questions and model solutions

Discussion: coffee break

11.00 – 11.30am

Key content and concepts 2 – Algebra with resit students

11.30 – 12.00pm

- Developing fluency in algebra with struggling students
- Making connections between number and algebra
- Making sense of and through multiple representations
- Exam questions and model solutions that boost learner confidence

Key content and concepts 3 – Geometry and measures

12.00 – 12.30pm

- Making connections in the real world with units, dimensions and shapes
- Making sense of questions with helpful diagrams
- Issues of accuracy and checking of solutions
- Consideration of exam questions and model solutions

Key content and concepts 4 – Probability and Statistics

12.30 – 1.00pm

- Developing conceptual understanding through practical activities with which resit students can engage
- Engaging with real life data – examples which promote learning
- Understanding representations such as Venn diagrams and Tree diagrams

Lunch and informal discussion

1.00 – 2.00pm

Problem solving

2.00 – 2.30pm

- Developing confidence in problem solving
- Using an 'Entry, Attack, Review' strategy
- The language of mathematics – explaining

Examination preparation and technique

2.30 – 3.00pm

- How to use of past papers, mark schemes and examiners' reports
- Optimising marks on the papers with essential working and students' rigorous checking and review, and developing these habits throughout the course with less engaged learners

Discussion: afternoon tea

3.00 – 3.15pm

Question and Answer session: An opportunity to consider

3.15 – 3.40pm

- Textbooks and other resources suitable to re-sit students
- Embedding and exploiting calculators and other digital technologies
- What works well, where and why

Plenary, course evaluation and depart

3.40 – 3.45pm

> DATES**London****Wednesday 31 October 2018****London****Wednesday 20 March 2019****> COURSE LEADER**

Mick Blaylock is currently teaching part-time at Manchester Metropolitan University and working freelance in Mathematics education as researcher, consultant and trainer. He taught Mathematics for over 20 years in five different very different institutions, with subject leadership responsibilities in the last four before becoming an HMI in 2002.

> WHO SHOULD ATTEND?

- > Mathematics subject leads
- > Teachers with leadership responsibility for GCSE resit Mathematics
- > Teachers of GCSE resit mathematics
- > Prospective teachers of GCSE resit Mathematics

> BENEFITS OF ATTENDING

- > Gain a better understanding of how to secure the all-important Grade 4 or higher at GCSE
- > Take away ideas, resources and strategies for making mathematics more meaningful for students at this level
- > Increased awareness of key ideas, concepts and connections in GCSE mathematics for emphasis in teaching
- > Develop strategies to enhance the understanding and confidence of GCSE resit students
- > Appreciate how to optimise performance in the GCSE resit examination
- > Obtain excellent ideas for using calculators to enhance teaching and for use in the examination



> ABOUT THIS COURSE

This course will provide advice and guidance on how to ensure that your students achieve the highest grades for AQA GCSE Maths. It builds upon experiences from the first two years of these examinations, using feedback from student results and teacher experiences. Delegates will explore high quality and successful teaching approaches for the content, in addition to working on strategies to support the development of AO2 and AO3 techniques at KS3 and KS4.

* laptops and internet access needed throughout the day

> DATES

Manchester
Tuesday 20 November 2018

London
Monday 10 December 2018

London
Thursday 07 February 2019

> PROGRAMME

TIME

The challenges for students aiming for Grades 7 – 9 10.00 – 11.00am

- Exploration of what differentiates the highest achieving students in AQA Maths
- Moving between the levels – the key points for improving student grades between Grades 7 and 9
- Investigate key areas of the specification which draw out higher achieving students and how the exams target these
- Excellent usage of resources and facilities to support high achieving students: methods and ideas to take back to the classroom

Discussion: coffee break 11.00 – 11.20am

Teaching the Higher tier 11.20 – 11.50am

- Resources and approaches for teaching the more complex areas of the specification: what are these and why are they challenging?
- How to maintain student focus and make best use of the multiple choice questions to harvest the 10% of the total marks available
- Supporting students' understanding through the use of real-life questions – how to do this to ensure high quality results
- Designing learning to develop fluency, reasoning, understanding and inference

Examiner feedback from student performances over the last 2 years 11.50 – 12.30pm

- Exam feedback: key areas of strength and areas for improvement and how to utilise this information to improve your students' likelihood of success in the exams
- Understanding and teaching to the highest level the questions which target the higher grades: what are they and what are the examiners looking for
- Providing feedback in the classroom to ensure ongoing high performance: advice that works

Lunch and informal discussion 12.30 – 1.30pm

Teaching the new content of the Higher tier GCSE 1.30 – 2.30pm

- With a particular focus on the topics which overlap with the AQA Level 2 Certificate in Further Maths such as algebra and geometry
- Includes marking exercises and suggested classroom activities
- How to best utilise resources for teaching this area of the specification: what should you look for in a resource?

Discussion: afternoon tea 2.30 – 2.45pm

Developing problem solving for higher level thinking 2.45 – 3.35pm

- Considering progression and assessment in problem solving
- Devising resources and activities for supporting and practising problem solving
- Utilising problem solving skills in the examination – how to teach what examiners are looking for

Plenary and conclusion 3.35 – 3.45pm

> COURSE LEADER

Will Rigby: Regional Advisor for the DfE Core Maths Support Programme in the North of England (including many of the Maths Hubs), and vastly experienced mathematics teacher from KS2-5. Secondary Mathematics Advisor to MAT's, LA's and governments.

> WHO SHOULD ATTEND?

- > All teachers of AQA GCSE Mathematics
- > Heads of Mathematics
- > Non-specialist Mathematics teachers who may be delivering revision sessions for Year 11
- > Trainee teachers ; NQTs and members of the SLT responsible for Mathematics

> BENEFITS OF ATTENDING

- > Gain expert knowledge and guidance, utilising information about the first two years of the new Mathematics (9-1) GCSE to provide stimulating ideas for ensuring high quality student performance
- > Obtain resources and ideas that help develop high level student reasoning, understanding and confidence
- > Consider actual student responses from the 2018 exams
- > Share successful practice and develop revision courses for Year 11 students
- > Motivational ideas and methods to increase student success in achieving Grades 7 and above



> **ABOUT THIS COURSE**

This course will provide expert advice and activities to help ensure that students achieve at least a Grade 4 and meet their potential. Expert examiner feedback from recent exams will be used to draw out key areas where students struggle and succeed. Delegates will explore teaching approaches for the content in addition to working on strategies to support the development of AO2 and AO3 techniques at KS3 and KS4.

* laptops and internet access needed throughout the day

> **DATES**

Manchester
Friday 23 November 2018

London
Tuesday 11 December 2018

London
Tuesday 12 February 2019

> **PROGRAMME**

TIME

Establishing the standard and differentiating appropriately	10.00 – 11.00am
<ul style="list-style-type: none"> The requirements for students at Grades 4 and 5 on the AQA specification: ensuring that you are teaching to the required levels Student context: how to review the ability of mid-range students and set appropriate tasks to maintain their progress Achieving their target grade: how to use appropriate facilities and information to keep students on track Advice from an expert AQA examiner on appropriate tiering choices for their papers – how can this affect student success? Evaluate recent AQA exam questions to understand how best to place students and make sure that they are working at the appropriate level 	

Discussion: coffee break	11.00 – 11.20am
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AQA Feedback on student performance over the last 2 years	11.20 – 11.50am
<ul style="list-style-type: none"> AQA Exam feedback: areas of strength and areas for improvement, patterns to note – how this information should be utilised to improve teaching and learning Examples of AQA answers to see where mid ranking students lose marks and how to avoid this Examining the standard: answers for the Higher and Foundation tier papers and what the examiners expect for each Making best use of the multiple choice questions to harvest the 10% of the total marks available 	

Teaching key content for the AQA Foundation tier	11.50 – 12.40pm
<ul style="list-style-type: none"> A hands on session looking at resources and approaches for teaching algebra (including simultaneous equations), trigonometry and other topics Designing the learning to ensure mid-range students succeed on these Supporting students' understanding through the use of real-life questions – how this can help with independent and structured learning Expert advice on classroom approaches to maintain student confidence and understanding 	

Lunch and informal discussion	12.40 – 1.40pm
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Higher tier students	1.40 – 2.30pm
<ul style="list-style-type: none"> What those entered for Tier H need to know above those entering for Tier F How to stop your Grades 4, 5 and 6 students slipping up on the Higher Tier papers: advice, tactics and teaching methods Providing appropriate feedback to keep mid-range Tier H students on track 	

Discussion: afternoon tea	2.30 – 2.45pm
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Developing problem solving for Grades 4 and 5	2.45 – 3.35pm
<ul style="list-style-type: none"> Considering progression and assessment in problem solving – how to hit and maintain the appropriate levels of progression Designing lessons to integrate problem solving into Maths Problem solving for exams: how to ensure student success, including reviewing AQA answers to see common strengths and pitfalls 	

Final summary and depart	3.35 – 3.45pm
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> **COURSE LEADER**

Will Rigby: Regional Advisor for the DfE Core Maths Support Programme in the North of England (including many of the Maths Hubs), and vastly experienced mathematics teacher from KS2-5. Secondary Mathematics Advisor to MAT's, LA's and governments.

> **WHO SHOULD ATTEND?**

- > All teachers of AQA GCSE Mathematics
- > Non-specialist Mathematics teachers who may be delivering revision sessions for Year 11
- > Heads of Mathematics
- > Trainee teachers ; NQTs and members of the SLT responsible for Mathematics

> **BENEFITS OF ATTENDING**

- > Obtain AQA specific skills and advice to make sure that students achieve their potential and obtain at least a Grade 4 in the examinations
- > Our expert examiner provides first-hand knowledge of experiences from the first two years of the new Mathematics (9-1) GCSE to help strengthen student performance
- > Take away materials to help develop student reasoning, understanding and confidence
- > Activities and guidance from real student responses which can be used to boost student performance
- > Increase the likelihood of student success in achieving grades 4 and 5 with AQA



> ABOUT THIS COURSE

This course will provide advice and guidance on how to ensure that your students achieve the highest possible grades for Edexcel GCSE Maths. It builds upon experiences from the first two years of these examinations, using feedback from student results and teacher experiences. Delegates will explore teaching approaches for the content in addition to working on strategies to support the development of high level skills and maintain student focus throughout the GCSE.

* laptops and internet access needed throughout the day

> DATES

Manchester
Wednesday 31 October 2018

London
Wednesday 14 November 2018

London
Monday 11 March 2019

> PROGRAMME

TIME

The challenges for students aiming for Grades 7 – 9

10.00 – 11.00am

- Explanation of what differentiates the highest achieving students in Edexcel GCSE Maths and what the exam board is looking for
- Moving between the levels – the key points for improving student grades between Grades 7 and 9
- Key areas of the Edexcel specification which draw out higher achieving students: how to focus on these and boost student understanding and quality of responses
- Achieving their target grade: facilities, resources and teaching strategies which keep top level students on track

Discussion: coffee break

11.00 – 11.20am

Teaching the Higher tier

11.20 – 11.50am

- Resources and approaches for teaching the more complex areas of the specification and ensuring answers at Grades 7 and above
- Maintaining student focus and progress during their GCSEs: key ideas and areas of the Edexcel specification to utilise
- Supporting students' understanding through the use of real-life questions – how to promote and maintain high level thinking
- Designing learning to develop fluency, reasoning, understanding and inference

Examiner feedback from student performances over the last 2 years

11.50 – 12.30pm

- Exam feedback: areas of strength and areas for improvement in the Edexcel Higher tier papers
- How to use this information to boost your students' opportunities to gain the highest grades
- Understanding and teaching the questions which target the higher grades
- Feedback in the classroom to ensure ongoing high performance: how to keep the high level performers on track and thinking at that level

Lunch and informal discussion

12.30 – 1.30pm

Teaching the content of the Higher tier GCSE

1.30 – 2.30pm

- Working through the topics which are examined at the top grades, such as algebra and geometry: how to ensure those skills have been embedded
- Confirming the standard: marking exercises and suggested classroom activities to maintain student progress
- Utilising excellent resources for teaching these topics at a high level

Discussion: afternoon tea

2.30 – 2.45pm

Developing problem solving for higher level thinking

2.45 – 3.35pm

- Considering progression and assessment in problem solving at Grades 7 to 9 – how is this different and what needs to be stressed
- Resources and activities for supporting and practising problem solving at the highest levels
- Utilising these skills in the examination – expert guidance on what examiners are looking for

Plenary and depart

3.35 – 3.45pm

> COURSE LEADER

Will Rigby: Regional Advisor for the DfE Core Maths Support Programme in the North of England (including many of the Maths Hubs), and vastly experienced mathematics teacher from KS2-5. Secondary Mathematics Advisor to MAT's, LA's and governments.

> WHO SHOULD ATTEND?

- > All teachers of Edexcel GCSE Mathematics
- > Heads of Mathematics
- > Non-specialist Mathematics teachers who may be delivering revision sessions for Year 11
- > Trainee teachers ; NQTs and members of the SLT responsible for Mathematics

> BENEFITS OF ATTENDING

- > Obtain materials and advice to help develop high level student reasoning, understanding and confidence
- > Gain first-hand expert knowledge from the first two years of the new Mathematics (9-1) GCSE and the significance of that information for improving high level student responses
- > Consider actual student responses from the 2018 exams which can be utilised in the classroom
- > Share successful practice and develop revision strategies for top level Year 11 students
- > Increase student success in achieving grades 7 and above



> ABOUT THIS COURSE

This course will provide expert advice and activities to help ensure that students achieve at least a Grade 4 and meet their potential. Expert examiner guidance and feedback from recent exams will be used to draw out key areas where students struggle and succeed. Delegates will explore teaching approaches for the content in addition to working on strategies to support the development of AO2 and AO3 techniques at KS3 and KS4.

* laptops and internet access needed throughout the day

> DATES

Manchester
Thursday 01 November 2018

London
Thursday 15 November 2018

London
Friday 22 March 2019

> PROGRAMME

TIME

Establishing student levels and setting appropriate targets 10.00 – 11.00am

- Analysing the student context: how to review the ability of mid-range students and set appropriate tasks
- Using facilities well to help students achieve their target grade
- Advice from an expert examiner on selecting appropriate tiering choices: what are the issues related to each tier
- A review of recent Edexcel exam questions to understand how best to place students and to confirm the standard to which they need to be working

Discussion: coffee break 11.00 – 11.20am

Examiner feedback from student performances from 2017 and 2018 11.20 – 11.50am

- Using Examiner feedback from Edexcel exams to improve teaching: areas of strength and areas for improvement
- Consider examples of Edexcel work to see where mid ranking students lose marks and how to avoid this
- Review the standard of answers for the Higher and Foundation tier papers and what the examiners expect for each
- High quality support: how to make best use of the variety of resources available for supporting students and raising attainment

Teaching key content the Foundation tier 11.50 – 12.40pm

- A hands on session looking at resources, teaching methods and approaches for teaching algebra (including simultaneous equations), trigonometry and other topics
- Supporting students' understanding through the use of real-life questions
- How to design learning to ensure mid-range students succeed on these topics in the examinations
- Classroom approaches to maintain student confidence and understanding

Lunch and informal discussion 12.40 – 1.40pm

Higher tier students 1.40 – 2.30pm

- What those entered for Tier H need to know above those entering for Tier F
- Crucial advice on how to stop your Grades 4, 5 and 6 students slipping up on the Higher Tier papers
- Appropriate feedback to keep Higher Tier students on track

Discussion: afternoon tea 2.30 – 2.45pm

Developing problem solving for Grades 4 and 5 2.45 – 3.35pm

- Considering progression and assessment in problem solving – how to hit the appropriate levels of progression
- Designing lessons to integrate problem solving into Maths
- How to ensure students can do this well in their exams, including reviewing answers to understand common strengths and pitfalls

Final summary and questions 3.35 – 3.45pm

> COURSE LEADER

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- > Non-specialist Mathematics teachers who may be delivering revision sessions for Year 11
- > Heads of Mathematics
- > Trainee teachers ; NQTs and members of the SLT responsible for Mathematics

> BENEFITS OF ATTENDING

- > Obtain high level skills and advice to make sure that students achieve their potential and obtain at least a Grade 4 in their GCSE Maths examinations
- > Take away materials to help develop student reasoning, understanding and confidence
- > Activities and guidance from real student responses which can be used to boost student performance
- > Increase student success in achieving grades 4 and 5
- > Share and gain first-hand knowledge of experiences from the first two years of the new Mathematics (9-1) GCSE



BIOGRAPHIES

Mick Blaylock

Mick is an independent mathematics consultant and a strong advocate for the integration of digital technologies (calculators, dynamic geometry, spreadsheets, etc.) to enhance the quality of mathematics education. He led the DfE funded Core Maths Support Programme (CMSP) from April 2014 to November 2016 to introduce the new Core Maths qualifications (first examined in May 2016). Mick has 25 years' successful experience teaching mathematics in four very different schools and a sixth-form college and was an A level principal examiner. Appointed as HMI for mathematics in 2001, he subsequently worked as the National Strategies Northwest Secondary Mathematics Director and as a senior managing inspector, leading inspections and training other inspectors, prior to heading up the CMSP.

Neil Donlan

Neil is Assistant Principal at the JCB Academy and Director of Student Performance. He is an Outstanding practitioner of Maths, with vast experience leading the transformation of Maths departments, improving several seriously underperforming departments.

Sarah Fryer

Sarah is an experienced teacher with experience of both pastoral and academic roles in school and sixth form college. She has been lead teacher in Statistics at a college in Cheshire, drawing on her extensive experience of examining for a major awarding body in Statistics 1, 2 & 3 as well as GCSE Statistics.

Rose Jewell

Rose is an experienced sixth form Mathematics teacher both in schools and sixth form colleges. While she was in charge of the GCSE at her previous college, the college was identified by the DfE as one of the leading providers in the country with one of the highest pass rates in the country. She is a Senior Examiner at A Level and a Deliverer of Training for a major awarding body. She is the founder of JewellMaths providing training, tutoring and resources.

Richard Perring

Richard is a maths teacher and consultant working for South Dartmoor Community College in the Southwest.

Since starting teaching he has worked in schools in Suffolk and Devon, for the National Strategies and NCETM. He has also worked on a wide range of projects for organisations including Pearson, Hodder, Harper Collins, Bowland Maths and Lasalle Education.

Will Rigby

Secondary Mathematics Advisor to MATs, LAs and governments. Regional Advisor for the DfE Core Maths Support Programme and vastly experienced mathematics teacher. Former Chief Examiner, Senior Examiner, Ofqual Subject Expert and author.

Ash Sharma

Ash is an experienced A-level Maths Teacher who has taught the course for 5 years in the 'Outstanding' rated Reigate College in Surrey. He joined Reigate at the age of 21 upon completion of his Maths degree and has developed into a mature and energetic teacher.

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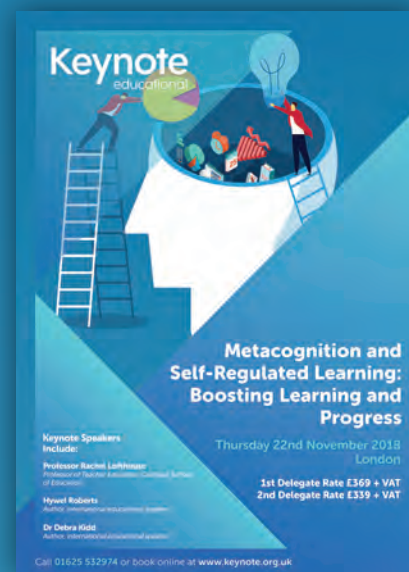
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