**Regional Delivery Partner
for North West England**

Algorithms in GCSE computer science

Broaden your understanding of algorithms to enhance your teaching of GCSE computer science in this 2 day course.

Summary

This course is delivered as part of the National Centre for Computing Education, and forms part of the Computer Science Accelerator programme.

An understanding of algorithms is fundamental to success in computer science. To reach their full potential, students of GCSE computer science need to be confident in using decomposition and abstraction to solve problems.

This course centres on the core search and sort algorithms; exploring how they manipulate data structures and comparing the relative efficiency of different methods.

You will become skilled using formal maths and logic to design algorithms, and be able to trace algorithms confidently, finding and fixing errors. You'll become familiar with the execution of algorithms in Python, supporting practical programming tasks.

Mapped closely to the specifications of GCSE Computer Science, the CPD will provide you with deepened knowledge and confidence that your students are equipped for their exams.

Outcomes

You will gain the required knowledge to help your students:

- understand and compare algorithms in terms of inputs, processes and outputs, including sorts, searches and string manipulations
- analyse problems, interpret flowcharts and pseudocode and evaluate the fitness of solutions using test data and logical reasoning

- trace algorithms and improve them, by identifying and correcting errors
- design algorithms using written descriptions, pseudocode and flowcharts to solve problems, leading to modular programming of solutions in Python code

Price: £0 per delegate*

*This course is part of the GCSE Computer Science Accelerator Programme CPD and is free for teaching staff from state maintained schools if they do not have an existing degree in Computer Science or related degree. In addition, a bursary of £220 per day can be reclaimed as long as the teacher completes 2 x 2d face to face training courses (total £880). Any subsequent courses a teacher undertakes are free of charge but no bursary is available. There is also an additional bursary of £600 if the teacher completes 16 hours of online training modules and the associated online knowledge test. The time frame for these bursaries is the teacher must complete the face to face training, online learning and knowledge test by 31st July to receive the total bursary of £1480. All bursaries are managed by Stem Learning as part of the course booking and delivery process and will be paid direct to the school.

Non-eligible teachers or teachers from non state maintained schools will pay £440 per course and will not be eligible for a bursary. Online training is free of charge.

Further bursary information can be found here teachcomputing.org/bursary

This is a 2 day course. Delegates will be booked onto both dates.

Course Dates

3 April and 3 May 2019	Sale, Greater Manchester
7 June and 2 July 2019	Sale, Greater Manchester

Sign up to courses via: www.mglworld.com/ncce