

Learning pathway

New to algorithms and programming

Who is this pathway for?

For teachers who are already confident in teaching the GCSE computer science specification and looking to improve student progress and attainment even further, this pathway will guide you through the more advanced elements of the curriculum.

1

An introduction to algorithms, programming and data in computer science

Create some simple block-based computer programs and discover how to implement them in Python.

📍 CP228 face to face
📺 CP428 remote course

2

Python programming constructs: sequencing, selection and iteration

Learn how programs are constructed using the building blocks of sequencing, selection and iteration.

📍 CP223 face to face
📺 CP423 remote course

3

Programming 101: an introduction to Python for educators

Learn how to program in Python and use your new coding skills to create your first program which will be able to solve a simple problem.

💻 CO207 online course

4

Programming 102: think like a computer scientist

Take your Python skills further in this online course, preparing you to progress onto more advanced programming.

💻 CO208 online course

5

Representing algorithms using flowcharts and pseudocode

Improve your knowledge of algorithms to the level appropriate for GCSE teaching.

📺 CP420 remote course

You might also consider...



Remote courses:

Remote courses are live, interactive online sessions led by an experienced professional development leader.

Other courses to enhance this pathway:

[CP433](#) - Python programming: working with data

[CP463](#) - Python programming: advanced subject knowledge, implementation and testing

[CP464](#) - Python programming: analysis, design and evaluation

[CP430](#) - Search and sort algorithms

Online courses:

On-demand courses that offer a new and exciting way to learn about computing and digital making. Take part in these free online courses and learn at your own pace, in the comfort of your own home.

Other courses to enhance this pathway:

[CO219](#) - Programming 103: saving and structuring data

[CO209](#) - Data representation in computing: bring data to life

Support to complete your pathway:

- Use the questionnaire on your dashboard to support you to find further suitable courses, based on your level of experience.
- **Download the CSA Handbook** to find out more about the topics, explore useful resources, identify further CPD and practice sample assessment questions.
- To find out more about the programme, our national support network and how we can help, email the team at [**info@teachcomputing.org**](mailto:info@teachcomputing.org).

Take the next step

Once you have completed your Subject knowledge certificate, if you work in secondary state-funded education you will receive free access to all our courses, including our follow-on **Secondary certificate**. This qualification can help to upskill your pedagogical practice, curriculum, and leadership.