

# Learning pathway

## Preparing to teach GCSE computer science

### Who is this pathway for?

For teachers who are confident with programming but need help with computer systems and networks, this learning pathway will improve your subject knowledge to meet the requirements of computer science up to GCSE level.

1

#### 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

2

#### The internet and cyber security

Build on knowledge of local computer networks to cover the globally connected systems forming the internet.

🎥 CP432 remote course

3

#### Representing algorithms using flowcharts and pseudocode

Become confident in using the key building blocks of sequence, selection and iteration, and learn to apply algorithmic thinking.

🎥 CP420 remote course

4

#### How computers work: demystifying computation

Explore the fundamentals of computing - computer architecture, binary logic, data processing, circuits, and more.

💻 CO206 online course

5

#### 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

6

#### Higher attainment in GCSE computer science

Explore how to improve attainment in Computer Science, looking at how students should tackle exam questions and use key resources such as moderator reports.

🎥 CP439 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

[CP430](#) - Search and sort algorithms

[CP478](#) - Supporting GCSE computer science students at grades 1-3

### 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:

[C0215](#) - Impact of technology: How to lead classroom discussions

[C0208](#) - Programming 102: Think like a computer scientist

### 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.