Home of computing education

National Centre for Computing Education

Supporting computing education in your secondary school or college

High impact professional development and school level support

teachcomputing.org

Supporting computer science teaching in your school or college through professional development

To meet the needs of computing teachers at all key stages of the national curriculum, our Continuing Professional Development (CPD) is designed to:

- develop a secure understanding of the computer science concepts within the computing curriculum, as well as knowledge of a range of teaching, learning and assessment strategies
- provide quality assured, easy-to-implement teaching and learning strategies and resources
- be flexibly accessed, ensuring that teachers can easily access CPD based on their context
- include wraparound support before, during and after CPD, including peer-to-peer support via local network of Computing Hubs as well as utilising the online STEM Community

Ways you can develop your teaching with us

Wellbeing and a healthy work-life balance is a hot topic for teachers. In order to support teachers without adding to their workload, we have developed different ways teachers can access professional development courses at a time and place that suits them.

How you can learn with us

- Intensive residential CPD
- Local face-to-face CPD
- Remote CPD
- Online short courses

Teach Computing Curriculum

Our high-quality computing resources are free for teachers to use in the classroom and cover all units on the national curriculum from key stage 1 to 4. Each unit has been thoroughly tested by teachers and is grounded in the latest research.

The Teach Computing Curriculum is designed to help you teach computing effectively, saving time and engaging pupils at all levels. It provides:

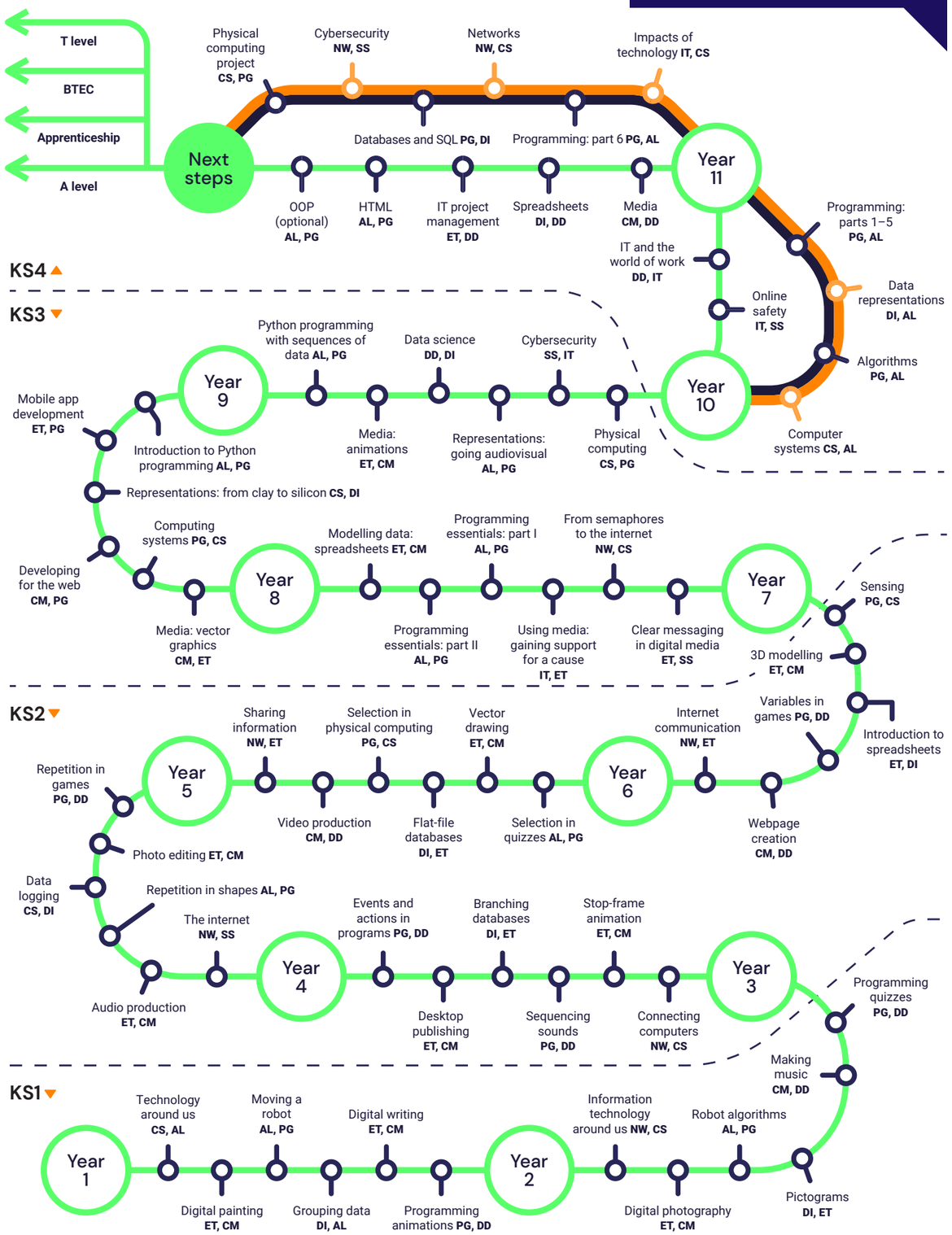
- lesson plans and slides
- activity sheets
- homework
- assessments
- teacher guides

Key

AL Algorithms
CS Computing systems
CM Creating media
DI Data & information
DD Design & development
ET Effective use of tools
IT Impact of technology
NW Networks
PG Programming
SS Safety & security

Computing
GCSE CS: Programming
GCSE CS: Theory

Download the curriculum journey map



School level support

We support schools and colleges to improve the provision of computer science through our network of Computing Hubs. The Computing Quality Framework describes what we believe great computing education in schools looks like.

The improvement begins with:

- identifying strengths and weaknesses in your school's computing curriculum
- gaining feedback and suggested actions, including relevant resources to improve your computing offer
- tracking progress towards achieving our accredited Computing Quality Mark

computingqualityframework.org

Additional support is also available to secondary schools that don't currently offer GCSE Computer Science but have an ambition to start. These eligible schools can access funding and subject matter expert support to build teacher knowledge and confidence as well as support students' learning.

Find out more about this funded support:

Computing Clusters

Collaborations that go beyond the school gates are vital to meet the ambition for an outstanding computing education. Computing clusters are a way for teachers, subject leads and school leadership teams to work together to achieve a shared goal that contributes to NCCE's vison of high-quality computing education for all young people.

Through the programme, groups of 3-6 schools will receive targeted support in professional learning to make progress within the Computing Quality Framework over a 12-month period.

- develop teacher subject knowledge and pedagogical understanding
- work towards achieving a Computing Quality Mark
- collaborate with other schools in your cluster and share knowledge

Schools will receive the support of a dedicated specialist advisor, who will provide support with:

- collaborative workgroups
- coaching and mentoring
- bespoke interventions
- facilitated drop-in sessions

Find out more

Additional support to improve computing provision

Teachers and schools can also benefit from other areas of support to engage pupils in computer science and better equip them for the future. Together with STEM Learning, we offer the support through:

STEM Community

A place to share ideas, ask for guidance and make connections. Join one of the computing groups on: community.stem.org.uk

STEM Ambassadors

Bring computing to life, support learning and raise aspirations through our free-to-access STEM and computing volunteers.

Digital Skills CPD

Intensive CPD in York to help teachers support pupils to develop the digital skills required to succeed in STEM subjects.

Enrichment

Encourage young people to develop life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.

I Belong: Encouraging girls into computer science

Launched in September 2023, this brand new programme aims to support more girls into computer science qualifications and careers by providing teachers with the tools to guide and support them.

Although computer science is growing in popularity amongst students, girls are consistently outnumbered by their male counterparts.

In England in 2022 girls comprised:

21%
of GCSE Computer Science entries

15%
of A Level Computer Science entries

21%
of students applying for computing-related degrees

Based on research and evidence, this programme brings together professional development, resources to support the curriculum and its enrichment outside lessons, and guidance to help you to tackle barriers for girls into computing.

Computer Science GCSE has high value for all young people. It can lead to rewarding further study and career paths for many. It equips young people for a rapidly changing world in which they can thrive as confident, informed and empowered individuals. Let's help girls know they belong in computer science.

Find out more

Isaac Computer Science

Isaac Computer Science is the free online textbook for A level and GCSE Computer Science teachers and students. Access a wide-range of time-saving learning materials that cover the AQA, EDEXCEL, EDUQAS, OCR and WJEC computer science curriculums.

- Quality resources by experienced teachers
- Topics for every exam board
- Sets of self-marking questions
- Gameboards for students
- GCSE and A level workbooks

With an account on Isaac, you can set up a virtual classroom with your students to set questions for them and our system will mark them and give you a detailed breakdown of their progress. Isaac Computer Science is great for supporting remote teaching, homework, and revision sessions, and helps you to quickly identify areas where students can improve.

Isaac will help you:

- save time on lesson planning and marking student work
- create personalised sets of questions for your class
- pinpoint areas to work on with your students
- manage students' progress in your personal markbook

Enhance your knowledge with the A level subject knowledge certificate

This certificate is designed to increase teachers' knowledge of computer science at A level and award them a nationally recognised certificate upon completion.

A range of A level CPD is also available for teachers to enhance both their knowledge and teaching skills.

Find out more

Computing Hubs

Your local computer science teaching experts

Find your local Computing Hub using your postcode by visiting: **teachcomputing.org/hubs**

Our Computing Hubs are led by schools and colleges across England with excellence in teaching computing. These Hubs support schools and colleges to provide a high-quality computing education to all young people. Your local hub will work with you to identify your computing needs and provide a targeted programme of support to help embed this key subject in your school.

Secondary subject knowledge certificate

Join the professional development programme for teachers, funded by the Department for Education, to reach your computing knowledge goals and achieve a nationally recognised subject knowledge certificate.

Whether you are a computing teacher or currently teach another subject and want to expand, this programme will help you develop or refresh your subject knowledge up to GCSE level.

There are five learning pathways designed for teachers at different levels from New to Computing to Advanced GCSE.

Develop your subject knowledge

> "It really matters that students have access to teachers with in-depth high-quality subject knowledge. Knowledge about where computing as a subject is now, but also about where it is heading anticipating that future."
>
> **Dr Robin Bevan**
> Headteacher, Southend High School for Boys

Your Computing Hub can support you with:

- Curriculum design
- Subject knowledge
- Physical computing kits
- Real-world contexts
- Subject matter experts support

Subject knowledge learning pathways

Develop your subject knowledge

There are five learning pathways designed for teachers at different levels, that provide a set of recommended CPD courses to help you get started and gain knowledge to positively impact student attainment and uptake of GCSE Computer Science.

National Centre for Computing Education

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.

Participate in professional development

Complete two days of professional development, including at least one face-to-face or remote course. You can choose another face-to-face, remote or online course to make up the remaining hours of CPD required to unlock the assessment.

Key CPD to support your development

Python programming constructs: Sequencing, selection and iteration	CP223
Python programming constructs: Sequencing, selection and iteration	CP423
Representing algorithms using flowcharts and pseudocode	CP420
The internet and cybersecurity	CP432
How computers work: Demystifying computation	CO206
Programming 101: An introduction to Python for educators	CO207
Understanding maths and logic in computer science	CO213

Additional courses

Python programming: working with data	CP433
Search and sort algorithms	CP430
Maths in computer science	CP434
Programming 102: Think like a computer science	CO208
An introduction to computer networking for teachers	CO214
Introduction to cybersecurity for teachers	CO216

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Preparing to teach GCSE computer science

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**.

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.

National Centre for Computing Education

To find further information about any of our suggested activities or this pathway, visit: teachcomputing.org/cs-accelerator

National Centre for Computing Education

Learning Pathway
New to computing

Who is this pathway for?

For teachers who are new to computing and looking to develop their subject knowledge, this learning pathway gives a comprehensive introduction to the entire computer science curriculum up to GCSE level.

Participate in professional development

Complete two days of professional development, including at least one face-to-face or remote course. You can choose another face-to-face, remote or online course to make up the remaining hours of CPD required to unlock the assessment.

Key CPD to support your development

📍	Foundation knowledge of computer science for KS3 & GCSE	CP226
📹	Foundation knowledge of computer science for KS3 & GCSE	CP426
📍	Introduction to algorithms, programming and data in computer science	CP228
📹	Introduction to algorithms, programming and data in computer science	CP428
📍	Introduction to computer systems, networking and cyber security in computer science	CP238
📹	Introduction to computer systems, networking and cyber security in computer science	CP438
🌐	Programming 101: An introduction to Python for educators	CO207
🌐	How computers work: Demystifying computation	CO206
🌐	Data representation in computing: bringing data to life	CO209

Additional courses

📍	Python programming constructs: sequencing, selection & iteration	CP223
📹	Python programming constructs: sequencing, selection & iteration	CP423
📹	Representing algorithms using flowcharts and pseudocode	CP420
📹	Fundamentals of computer networks	CP422
🌐	Impact of technology: How to lead classroom discussions	CO215
🌐	Understanding computer systems	CO212
🌐	Introduction to cybersecurity for teachers	CO216

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**.

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🌐 Online 📹 Remote 📍 Face to Face

Click on the button with the course code above to proceed to the course page on the website.

National Centre for Computing Education

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National Centre for Computing Education

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.

Participate in professional development

Complete two days of professional development, including at least one face-to-face or remote course. You can choose another face-to-face, remote or online course to make up the remaining hours of CPD required to unlock the assessment.

Key CPD to support your development

Face to Face	Introduction to algorithms, programming and data in computer science	CP228
Remote	Introduction to algorithms, programming and data in computer science	CP428
Face to Face	Python programming constructs: Sequencing, selection and iteration	CP223
Remote	Python programming constructs: Sequencing, selection and iteration	CP423
Remote	Representing algorithms using flowcharts and psuedocode	CP420
Online	Programming 101: An introduction to Python for educators	CO207
Online	Programming 102: Think like a computer scientist	CO208

Additional courses

Remote	Python programming: Working with data	CP433
Remote	Search and sort algorithms	CP430
Remote	Python programming: advanced subject knowledge, implementation and testing	CP463
Online	Programming 103: Saving and structuring data	CO219
Online	Understanding maths and logic in computer science	CO213

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**.

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.

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

National Centre for Computing Education

To find further information about any of our suggested activities or this pathway, visit: teachcomputing.org/cs-accelerator

National Centre for Computing Education

Learning Pathway
New to computer systems

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.

Participate in professional development

Complete two days of professional development, including at least one face-to-face or remote course. You can choose another face-to-face, remote or online course to make up the remaining hours of CPD required to unlock the assessment.

Key CPD to support your development

Introduction to computer systems, networking and cybersecurity in computer science	CP238
Introduction to computer systems, networking and cybersecurity in computer science	CP438
Fundamentals of computer networks	CP422
Understanding computer systems	CO212
Data representation in computing: Bring data to life	CO209
Understanding maths and logic in computer science	CO213

Additional courses

The internet and cybersecurity	CP432
Maths in computer science	CP434
How computers work: Demystifying computation	CO206
Impact of technology: How to lead classroom discussions	CO215

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**.

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.

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

National Centre for Computing Education

To find further information about any of our suggested activities or this pathway, visit: teachcomputing.org/cs-accelerator

National Centre for Computing Education

Learning Pathway
Advanced GCSE computer science

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.

Participate in professional development

Complete two days of professional development, including at least one face-to-face or remote course. You can choose another face-to-face, remote or online course to make up the remaining hours of CPD required to unlock the assessment.

Key CPD to support your development

Python programming: Advanced subject knowledge, implementation and testing	CP463
Python programming: Analysis, design and evaluation	CP464
Programming with GUI's	CO217
Programming 103: Saving and structuring data	CO219

Additional courses

Representing algorithms using flowcharts and pseudocode	CP420
Python programming: working with data	CP433
Introduction to web development	CO221
Object oriented programming in Python: Create your own adventure game	CO210
Introduction to Machine Learning and AI	CO231

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Advanced GCSE computer science

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**.

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.

National Centre for Computing Education

To find further information about any of our suggested activities or this pathway, visit: teachcomputing.org/cs-accelerator

Teach secondary computing certificate

Our secondary professional development programme is designed to enhance how you teach computing, and to give you confidence to apply those skills in the classroom. You can work on improving your secondary computing teaching skills at the same time as enhancing your subject knowledge.

Find out more here

1. Explore our range of CPD to discover courses suited to you
2. Join courses to develop your practice and share knowledge
3. Engage with your local community through engagement activities
4. Complete the programme and receive your certificate

To support your journey to achieve the secondary computing teaching certificate, we have created pathways that are tailored to your development needs and goals. Enroll on one of the five pathways to improve your pedagogy and knowledge of teaching computing to secondary students.

National Centre for Computing Education

Learning Pathway
Curriculum leadership

Are you currently a Computing Lead or are looking to progress into the role? This pathway will support you to build the confidence to lead computing effectively in your school.

Teachers following this route will contribute to improving:
- **Leadership and Vision**
- **Curriculum and Qualifications**
- **Staff Development**
- **Impact on Outcomes**

As defined in the Computing Quality Framework

Develop your professional knowledge

Complete one full day face-to-face, remote or online course, or a combination of short courses that amounts to 6+ hours of professional development.

Choose CPD right for you

Higher attainment in GCSE computer science – meeting the challenges of the exams	CP439
Supporting GCSE computer science students with grades 1–3	CP478
Adapted teaching and effective learning interventions in secondary computing	CP448
Creating an Inclusive Classroom: Approaches to Supporting Learners with SEND in Computing	CO700
Programming Pedagogy in Secondary Schools: Inspiring Computing Teaching	CO222
Teach Computing in Schools: Creating a Curriculum for Ages 11 to 16	CO230
New subject leaders of secondary computing	CP211
New subject leaders of secondary computing	CP411
Encouraging girls into GCSE computer science	CP440
Preparing for Ofsted in secondary computing	CP444
Enriching secondary computing with STEM Ambassadors in your region	CP446
Behaviour for learning in a computing environment	CP468
Assessment in secondary computing	CP413
Assessment and progression in KS3 computing	CP212
KS3 computing (module 1): Creative curriculum design principles	CP247
KS3 computing (module 2): Creative curriculum content, sequencing and pedagogy	CP248
KS3 computing (module 3): Creative curriculum enrichment and inclusion	CP249

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Make a positive impact on young people in computing

- **Raise aspirations with a STEM Ambassador visit**

  Arrange a visit for your school to help pupils understand real-world applications of computing and raise their career aspirations through engaging activities.
- **Participate fully in an NCCE curriculum enrichment opportunity**

  Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.
- **Implement your professional development in the classroom and evaluate via the Impact Toolkit**

  Think about not only your actions but also collecting evidence of how the changes you make impact you, your colleagues, and your students.
- **Download and use the NCCE teaching and assessment resources in your classroom**

  Download and use a Teach Computing Curriculum resource, then reflect on how you used and adapted it in the classroom.

Support your professional community

- **Gain accreditation as a professional development leader**

  Explore what makes CPD effective and how its impact can be evaluated as well as the strategies and tools you'll need when leading learning with adults.
- **Support other teachers and earn a STEM Community participation badge**

  You'll earn points for your activities on the STEM Community. Your points add up, and over time you will be rewarded with badges in recognition of your activity and participation in the community.
- **Undertake the initial assessment of your school using Computing Quality Framework**

  Review your school's progress in developing an exemplary computing curriculum and work towards achieving the Computing Quality Mark.
- **Work with your local Computing Hub to develop a school-level action plan for professional development**

  Computing Hubs support school's in the area with thier journey in developing the computing curriculum.
- **Lead your school into a Computing Cluster, and develop an action plan with a Cluster advisor**

  Join a group of 3-6 eligible schools, which receive targeted support in professional learning to make progress within the Computing Quality Framework over a 12-month period.
- **Join and present at your local Computing at School Community**

  CAS Communities are the hearts, hands, and minds of Computing at School activity across the UK. Join a local event and offer your insights, ideas and expertise to colleagues.

To find further information about any of our suggested activities or this pathway, visit:
teachcomputing.org/secondary-certificate

National Centre for Computing Education

Learning Pathway
Supporting other teachers

Are you looking to support your colleagues through mentoring, collaborative working and sharing expertise? This pathway will help you aid your colleague to deliver excellent computer science to young people in your school. This pathway will support you to build the confidence to lead computing effectively in your school.

Teachers following this route will contribute to improving:

- **Staff Development**
- **Teaching, Learning and Assessment**

As defined in the Computing Quality Framework

Develop your professional knowledge

Complete one full day face-to-face, remote or online course, or a combination of short courses that amounts to 6+ hours of professional development.

Choose CPD right for you

KS4 Computing for all	CP207
Collaboration in KS3 programming	CP437
Teaching GCSE computer science: improving student engagement	CP447
Adapted teaching and effective learning interventions in secondary computing	CP448
Programming Pedagogy in Secondary Schools: Inspiring Computing Teaching	CO222
Impact of technology: How to lead classroom discussions	CO215
Behaviour for learning in a computing environment	CP468
Encouraging girls into GCSE computer science	CP440
Enriching secondary computing with STEM Ambassadors in your region	CP446

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Make a positive impact on young people in computing

- **Participate fully in an NCCE curriculum enrichment opportunity**

  Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.

- **Download and use the NCCE teaching and assessment resources in your classroom**

  Download and use a Teach Computing Curriculum resource, then reflect on how you used and adapted it in the classroom.

- **Join the *I Belong: Encouraging Girls into Computer Science* programme, and become an I Belong Champion**

  I Belong is an evidence-based programme which aims to support more girls into computer science qualifications and careers by providing you with the knowledge and tools to support them.

Support your professional community

- **Gain accreditation as a professional development leader**

  Explore what makes CPD effective and how its impact can be evaluated as well as the strategies and tools you'll need when leading learning with adults.

- **Undertake the initial assessment of your school using Computing Quality Framework**

  Review your school's progress in developing an exemplary computing curriculum and work towards achieving the Computing Quality Mark.

- **Lead your school into a Computing Cluster, and develop an action plan with a Cluster advisor**

  Join a group of 3-6 eligible schools, which receive targeted support in professional learning to make progress within the Computing Quality Framework over a 12-month period.

- **Join and present at your local Computing at School Community**

  CAS Communities are volunteer-run, grass-roots, teacher-to-teacher communities providing informal professional development and networking opportunities. Join a local event and offer your insights, ideas and expertise to colleagues.

- **Support other teachers and earn a STEM Community participation badge**

  You'll earn points for your activities on the STEM Community. Your points add up, and over time you will be rewarded with badges in recognition of your activity and participation in the community.

To find further information about any of our suggested activities or this pathway, visit: teachcomputing.org/secondary-certificate

National Centre for Computing Education

Learning Pathway
Championing diversity and inclusion

Are you looking to champion diversity and inclusion in their classrooms as well as computing as a subject? This pathway will give you knowledge of teaching interventions, encouraging girls into taking up GCSE Computer Science and how to support SEND students in their learning of computing.

Teachers following this route will contribute to improving:

- **Equity, Diversity, Inclusion and SEND**

As defined in the Computing Quality Framework

Develop your professional knowledge

Complete one full day face-to-face, remote or online course, or a combination of short courses that amounts to 6+ hours of professional development.

Choose CPD right for you

Encouraging girls into GCSE computer science	CP440
Creating an Inclusive Classroom: Approaches to Supporting Learners with SEND in Computing	CO700
Adapted teaching and effective learning interventions in secondary computing	CP448
Collaboration in KS3 programming	CP437
Computing for specialist teachers of autistic students	CP291
Creative digital media projects	CP414
KS3 computing (module 3): Creative curriculum enrichment and inclusion	CP249

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Make a positive impact on young people in computing

- **Raise aspirations with a STEM Ambassador visit**

  Arrange a visit for your school to help pupils understand real-world applications of computing and raise their career aspirations through engaging activities.

- **Participate fully in an NCCE curriculum enrichment opportunity**

  Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.

- **Implement your professional development in the classroom and evaluate via the Impact Toolkit**

  Think about not only your actions but also collecting evidence of how the changes you make impact you, your colleagues, and your students.

- **Download and use Isaac Computer Science classroom resources and displays**

  Bring learning to life with Computer Science Journeys and request printed versions of the 'I Belong in Computer Science' posters from the NCCE to put in your classroom.

Support your professional community

- **Gain accreditation as a professional development leader**

  Explore what makes CPD effective and how its impact can be evaluated as well as the strategies and tools you'll need when leading learning with adults.

- **Support other teachers and earn a STEM Community participation badge**

  You'll earn points for your activities on the STEM Community. Your points add up, and over time you will be rewarded with badges in recognition of your activity and participation in the community.

- **Work with local business and industry to inspire inclusive computing**

  Establish relationships with businesses in your local area, that can support development of inclusive computing in your school.

- **Lead your school into a Computing Cluster, and develop an action plan with a Cluster advisor**

  Join a group of 3-6 eligible schools, which receive targeted support in professional learning to make progress within the Computing Quality Framework over a 12-month period.

- **Join and present at your local Computing at School Community**

  CAS Communities are volunteer-run, grass-roots, teacher-to-teacher communities providing informal professional development and networking opportunities. Join a local event and offer your insights, ideas and expertise to colleagues.

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National Centre for Computing Education

Learning Pathway
Raising student attainment

Are you looking to raise attainment amongst different groups of students? This pathway will help you support young people to overcome challenges, champion diversity in your school and increase student engagement in the subject of computing.

Teachers following this route will contribute to improving:

- **Teaching, Learning and Assessment**
- **Impact on Outcomes**
- **Careers Education**

As defined in the Computing Quality Framework

Develop your professional knowledge

Complete one full day face-to-face, remote or online course, or a combination of short courses that amounts to 6+ hours of professional development.

Choose CPD right for you

Higher attainment in GCSE computer science - meeting the challenges of the exams	CP439
Supporting GCSE computer science students with grades 1-3	CP478
Teaching GCSE computer science: improving student engagement	CP447
Assessment and progression in KS3 computing	CP212
Teaching GCSE computer science developing knowledge and understanding	CP241
Teaching GCSE computer science pedagogy for programming	CP242
KS4 Computing for all	CP207
Enriching secondary computing with STEM Ambassadors in your region	CP446
Behaviour for learning in a computing environment	CP468
Assessment in secondary computing	CP413
Diagnostic assessment in GCSE computer science	CP412
Assessment and progression in KS3 computing	CP212

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Make a positive impact on young people in computing

- **Raise aspirations with a STEM Ambassador visit**

  Arrange a visit for your school to help pupils understand real-world applications of computing and raise their career aspirations through engaging activities.
- **Participate fully in an NCCE curriculum enrichment opportunity**

  Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.
- **Implement your professional development in the classroom and evaluate via the Impact Toolkit**

  Think about not only your actions but also collecting evidence of how the changes you make impact you, your colleagues, and your students.
- **Download and use the NCCE teaching and assessment resources in your classroom**

  Download and use a Teach Computing Curriculum resource, then reflect on how you used and adapted it in the classroom.

Support your professional community

- **Gain accreditation as a professional development leader**

  Explore what makes CPD effective and how its impact can be evaluated as well as the strategies and tools you'll need when leading learning with adults.
- **Support other teachers and earn a STEM Community participation badge**

  You'll earn points for your activities on the STEM Community. Your points add up, and over time you will be rewarded with badges in recognition of your activity and participation in the community.
- **Undertake the initial assessment of your school using Computing Quality Framework**

  Review your school's progress in developing an exemplary computing curriculum and work towards achieving the Computing Quality Mark.
- **Work with your local Computing Hub to develop a school-level action plan for professional development**

  Computing Hubs support school's in the area with thier journey in developing the computing curriculum.
- **Lead your school into a Computing Cluster, and develop an action plan with a Cluster advisor**

  Join a group of 3-6 eligible schools, which receive targeted support in professional learning to make progress within the Computing Quality Framework over a 12-month period.
- **Join and present at your local Computing at School Community**

  CAS Communities are volunteer-run, grass-roots, teacher-to-teacher communities providing informal professional development and networking opportunities. Join a local event and offer your insights, ideas and expertise to colleagues.

To find further information about any of our suggested activities or this pathway, visit:
teachcomputing.org/secondary-certificate

National Centre for Computing Education

Learning Pathway
Developing teachers

Are you looking to develop your teaching post Early Career Teacher programme? This pathways will support your development goals and will help increase your knowledge of the subject and pedagogy.

Teachers following this route will contribute to improving:

- **Teaching, Learning and Assessment**

As defined in the Computing Quality Framework

Develop your professional knowledge

Complete one full day face-to-face, remote or online course, or a combination of short courses that amounts to 6+ hours of professional development.

Choose CPD right for you

Higher attainment in GCSE computer science - meeting the challenges of the exams	CP439
Supporting GCSE computer science students at grades 1-3	CP478
Adapted teaching and effective learning interventions in secondary computing	CP448
Creating an Inclusive Classroom: Approaches to Supporting Learners with SEND in Computing	CO700
Programming Pedagogy in Secondary Schools: Inspiring Computing Teaching	CO222
Enriching secondary computing with STEM Ambassadors in your region	CP446
Behaviour for learning in a computing environment	CP468

Online Remote Face to Face

Click on the button with the course code above to proceed to the course page on the website.

Make a positive impact on young people in computing

- **Raise aspirations with a STEM Ambassador visit**

  Arrange a visit for your school to help pupils understand real-world applications of computing and raise their career aspirations through engaging activities.

- **Participate fully in an NCCE curriculum enrichment opportunity**

  Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.

- **Implement your professional development in the classroom and evaluate via the Impact Toolkit**

  Think about not only your actions but also collecting evidence of how the changes you make impact you, your colleagues, and your students.

Support your professional community

- **Gain accreditation as a professional development leader**

  Explore what makes CPD effective and how its impact can be evaluated as well as the strategies and tools you'll need when leading learning with adults.

- **Support other teachers and earn a STEM Community participation badge**

  You'll earn points for your activities on the STEM Community. Your points add up, and over time you will be rewarded with badges in recognition of your activity and participation in the community.

- **Gain accreditation as an I Belong Champion**

  Become an I Belong Champion to showcase your passion for inclusion and advocate for and create a sense of belonging for girls in computer science.

- **Work with local business and industry to inspire inclusive computing**

  Establish relationships with businesses in your local area, that can support development of inclusive computing in your school.

To find further information about any of our suggested activities or this pathway, visit:
teachcomputing.org/secondary-certificate

To find out more and access the full range of support, visit:

teachcomputing.org

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STEM LEARNING

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Department for Education