

National Centre for Computing Education

Computing Hubs

Invitation to Tender: Specification and
Information for bidders

14 January 2019

Information for Bidders

1. Summary

- 1.1. Following an open and competitive process, the consortium of STEM Learning, the British Computer Society (BCS) and the Raspberry Pi Foundation ('the consortium') has successfully secured the contracts to deliver the National Centre for Computing Education (NCCE) and its associated programmes for the Department for Education (DfE).
- 1.2. These programmes include:
 - 1.2.1. a national programme of CPD aimed at all teachers of computing state maintained schools and colleges in England at all key stages
 - 1.2.2. a CPD programme to train and certify 8,000 secondary computing teachers who lack a post A Level Computer Science qualification, The Computer Science Accelerator (*CS Accelerator programme*)
 - 1.2.3. a parallel programme of support for A Level teaching.
- 1.3. STEM Learning is the prime contractor on behalf of the consortium of STEM Learning, BCS and Raspberry Pi Foundation.
- 1.4. The National Centre for Computing Education (NCCE) invites proposals from interested parties to become one of around 40 **Computing Hubs** in England, supporting the work of the NCCE to July 2022. The final number will be determined by the need to provide a geographical spread across England, and will lead the delivery of computing CPD in local areas.
- 1.5. During the contract period, Computing Hubs will provide local, responsive and appropriately tailored support available to all computing teachers in state primary and secondary schools and colleges in their area, collectively providing national coverage. Computing Hubs will be the focal point for local computing CPD, supported by a strong National Centre for Computing Education, covering practical and theoretical aspects of teaching computing, within a reasonable day's travel.
- 1.6. Computing Hubs will draw upon local expertise to provide a range of CPD opportunities for all teachers with a particular focus on teachers in schools in category 5 and 6 Local Authority Districts¹. They will build local expertise and capacity for school-to-school support, extending the NCCE's reach to all schools and colleges and, at the same time, support work to develop a sustainable model of CPD.

¹ <https://data.gov.uk/dataset/6ff3fc08-26ff-453e-9289-6420269ba10e/local-authority-districts-counties-and-unitary-authorities-december-2017-map-in-united-kingdom>

- 1.7. The first 10 Hubs will be contracted from May 2019 to act as flag bearers for the NCCE and working with us on the development of systems and processes. The remaining 30 Hubs will be operational by September 2019.
- 1.8. The contracting agent for this contract is STEM Learning Ltd, and the contract period will run between 1 May 2019 to 31 July 2022 for the first 10 Computing Hubs, and 1 September 2019 to 31 July 2022 for the remaining 30 Computing Hubs.
- 1.9. During the period January 2019 to the end of October 2019, 10 Regional Delivery Partners will support the early phase of mobilisation of the NCCE and its associated programmes. Each Regional Delivery Partner will deliver local CPD across England whilst Computing Hubs are selected and established.

2. Background and strategic context

The Vision for the National Centre for Computing Education

- 2.1. The consortium's vision is for every child in every school in England to have a world-leading computing education. We will bring that vision to life by establishing the National Centre for Computing Education as a virtual institution that provides leadership, expertise, evidence-based interventions; free, quality-assured curriculum-linked resources; face-to-face CPD content, and online CPD.
- 2.2. We aim to:
 - 2.2.1. **Support and improve the provision of computing education in England.** Evidence suggests that, due to a lack of teacher expertise, schools are currently finding it difficult to teach the full computing curriculum at primary and secondary. A survey by the Royal Society showed that 32% of primary school teachers and 44% of secondary school computing teachers in England felt more confident teaching the earlier stages of the curriculum where there is less of a computer science focus². Pupils may therefore lack the necessary concepts that act as a foundation for studying computing.
 - 2.2.2. **Increase teacher confidence in teaching the computing curriculum.** Research from the Royal Society³ shows that the experience, quality and confidence of teachers to deliver the computing curriculum at primary and secondary varies greatly across the country. Many existing teachers do not have sufficient expertise to teach the new subject. It is estimated that there are about 8,000 secondary computing teachers in England without a post-A level qualification in computing or a related subject. In addition, teachers may not be able adequately to communicate the relevance and importance of computing and digital skills for their pupils' future careers OR careers education.

² <https://royalsociety.org/~media/policy/projects/computing-education/computing-education-report.pdf>

³ <https://royalsociety.org/~media/policy/projects/computing-education/computing-education-report.pdf>

- 2.2.3. **Improve the diversity of young people studying computing and computer science.** In primary schools, there appears to be little difference between the genders in the enjoyment levels while learning computing. However, only around 20% of GCSE entries and 10% of a-level entries are from girls. This is the most obvious of multiple disparities that we aim to correct.
- 2.2.4. **Drive up participation and attainment in Computer Science at GCSE and A Level.** Entries to Computer Science are varied across the country, with 30% of state-funded schools in England having no GCSE entries to Computer Science in 2016/17. In 33 local authorities, over 40% of state-funded schools do not offer GCSE Computer Science. These local authorities include a number of the NCCE's priority areas for support, defined as category 5 and 6 Achieving Excellence Areas
- 2.3. The **Computer Science Accelerator (CSA)** Programme will be established to upskill and certify 8,000 secondary computing teachers who lack a post A Level Computer Science qualification. The programme will provide free high quality Face to Face and online professional development to support computing teachers, upskilling them with the subject knowledge to teach GCSE Computer Science (GCSE CS) successfully.
- 2.4. A parallel **A-level programme** will be established to provide comprehensive support to teachers and students in England for A Level Computer Science.

3. The breadth of the NCCE offer

- 3.1. The NCCE will be the authoritative source of high-quality, comprehensive support for computing education across England. We will help teachers develop a secure knowledge of the subject matter and pedagogy. We will address the distinctive challenges facing the different key stages at primary, secondary and FE, and cover all aspects of the curriculum, through:
 - 3.1.1. Free, quality-assured, complete curriculum-linked teaching resources, comprising more than 500 hours of high-quality material across all key stages, with differentiated support, stretch and challenge that caters for all students.
 - 3.1.2. Face to face CPD, embedded in and explicitly modelling proven pedagogical approaches, enabling teachers to confidently teach all aspects of computing, including difficult topics. We will reach at least 21,300 teachers in England with face to face CPD over the contract period.
 - 3.1.3. Free, online CPD which teachers can access at times that suit them, with a strong emphasis on social learning, proven to increase retention and learning outcomes. We are aiming for over 25,000 teachers in England participating in the online courses, with 50% of those completing multiple online courses.
 - 3.1.4. A portfolio of free, quality-assured curriculum enhancement activities and programmes, with a proven track record of positively impacting on learning outcomes, perceptions, and engagement with computing.

4. Computing Hubs

- 4.1. For the period September 2019 to July 2022 a network of 40 school-led Computing Hubs across England will ensure that all computing teachers have access to local and regional support.
- 4.2. A Computing Hub will be an educational institution with expertise in computing education, which will provide a range of support for primary and secondary teachers of computing in schools in the local area, as per expected outcomes which will include teaching, resources and CPD activities. There will be two categories of Computing Hub – 10 High Capacity Hubs and 30 High Performance Hubs across England.
- 4.3. Computing Hubs will:
 - 4.3.1. provide an effective network of support to ensure that computing teachers have access to a suite of relevant, inspiring and effective CPD opportunities. These will cover practical and theoretical aspects of teaching computing, and be offered within a reasonable day's travel. All CPD content will be provided by the NCCE.
 - 4.3.2. draw in local expertise to provide the range of CPD opportunities for all teachers and build local expertise and capacity for school-to-school support and promote and support local communities of practice, thus extending the NCCE's reach to all schools and colleges while supporting the NCCE to develop a sustainable model of CPD.
 - 4.3.3. collaborate with the NCCE and other Computing Hubs to ensure the national programme of professional development for computing is coherent across England and that the CPD delivered complements the CPD offered online.
- 4.4. Computing Hubs will be required to engage with teachers from primary, secondary schools and FE colleges in their region to achieve all KPI targets in line with their agreed Hub Delivery Plan. Computing Hubs will be responsible for developing and delivering a **Computing Hub Delivery Plan** which will address local KPIs aligned to:
 - 4.4.1. delivering NCCE core CPD provision which meets the needs of primary, secondary and FE colleges
 - 4.4.2. promoting and recruiting teachers into the *CS Accelerator Programme*, delivering the face-to-face CPD element of the *CS Accelerator Programme* to complement online CPD
 - 4.4.3. supporting teachers to complete the *CS Accelerator programme* and achieve successful certification
 - 4.4.4. delivering training sessions to upskill teachers to become CPD Facilitators, where additional capacity is required.

- 4.4.5. organising and delivering regional events to raise awareness of the NCCE offer and CPD programme of support.

5. Criteria for Computing Hubs

- 5.1. There will be two categories of Computing Hub – **10 High Capacity Hubs and 30 High Performance Hubs** across England.

- 5.2. The criteria for both categories is outlined below.

- 5.2.1. **High Capacity Hub** – A school or college with strong capacity in computer science teaching, based on the expertise and experience of current teaching staff, and a clear commitment from the senior leadership to supporting computing education in other schools, and good institutional experience of leading school-to-school support activities, collaborative networks, or similar projects. The school or college may be any pre-18 educational phase (e.g. primary, middle, secondary, all-through, further education) and must be state-funded with a current overall Ofsted rating of 'Good' or 'Outstanding'

- 5.2.2. **High Performance Hub** – A state-funded secondary or all-through school demonstrating, over the last three years: above average GCSE computer science attainment (based on the proportion of entries achieving grades A*-C or 9-4); and above average proportion of entries to GCSE computer science, based on the most recently available statistical release; and a current overall Ofsted rating of 'Good' or 'Outstanding'.

- 5.3. Our process of selection of the 40 Computing Hubs aims to select schools and colleges who are themselves high quality teaching institutions, with high levels of leadership support and commitment, strong results and engagement with computing networks. In addition to the criteria outlined in section 6.2, other aspects will be considered as part of the evaluation process to select the network of Computing Hubs. These include schools and colleges who:

- 5.3.1. Can demonstrate that they can draw upon experienced CPD computing specialists (e.g CAS master teacher network) within their schools and wider regional setting.

- 5.3.2. Have existing subject specific school support networks and infrastructure in place (cross school groups within MATS), lead schools, science learning partnership, maths hub or teaching schools alliances.

- 5.3.3. Can provide insight and experience to support the establishment of the NCCE school-led model of support for computing, demonstrating achievement and commitment to improving the teaching and learning of computing.

- 5.3.4. Fulfil our requirements to achieve full geographical spread across England. We will review submissions based on those schools who not only are the best candidates schools to deliver high quality delivery but also deliver good

geographical coverage across England and across different priority areas, local authorities and opportunity areas.

6. Computing Hubs - role and responsibilities

- 6.1. Our network of Computing Hubs will consist of 10 High Capacity Hubs and 30 High Performance Computing Hubs. Our aspiration is that all Computing Hubs are High Performance. High Capacity Hubs will undertake additional responsibilities of behalf of the Network to both drive engagement, and provide additional subject expertise and leadership. These will include the championing of the CS Accelerator programme across a number of Computing Hub regions, and also the coordination of direct engagement and in-school/college to ultimately increase the numbers of pupils being taught Computer Science at GCSE and A-level.
- 6.2. Each Hub will receive a fixed cost contribution to establish a small, core team including Secondary Lead, Primary Lead, and administrative support. Each Computing Hub will establish a local steering group that involves Teaching School Alliances, Multi-Academy Trusts, schools and colleges, HEIs, and other local partners.
- 6.3. **High Performance Hubs** - A High Performance Hub will be funded to provide the following level of support – a secondary lead at least 3 days per week; a primary lead at least 2 days per week and administrative support at least 2 days per week.
- 6.4. **High Capacity Hubs** - Additional funds are available for High Capacity Hubs to fulfil additional work on behalf of the Network. A High Capacity Hub will receive the core funding of a High Performance Hub, with a further financial allocation to appoint a CS Accelerator Champion and a Lead Computing Subject Matter Expert (SME). These additional full-time positions will oversee a wider geographical reach to support other High Performance Computing Hubs in their vicinity.
 - 6.4.1. The CS Accelerator Champion will drive forward the promotion and engagement of the CS Accelerator programme, supporting other Hubs as required.
<https://www.stem.org.uk/national-centre-for-computing-education/cs-accelerator-programme>.
 - 6.4.2. To ensure that the needs of schools and teachers in the most challenging of areas are addressed, each High Capacity Hub will appoint a regionally-based Subject Matter Expert (SME), with computing-specific experience of supporting CPD. They will support the work of their Hubs and other High Performance Hubs. SMEs will be directed by the High Capacity Hub to work with schools not currently offering computing, advocating for the subject and working with senior leadership to introduce computing into their curriculum offer, and agreeing a school- based Action Plan, against which progress can be measured. The Lead Computing SME will ultimately lead efforts locally working directly with schools and colleges to drive up participation and attainment in Computer Science at GCSE and A Level, including bespoke CPD, consultancy and teacher coaching.

- 6.5. All Hubs will be able to draw on central administration from the NCCE, which will be delivered by STEM Learning, reducing overall costs through economies of scale.
- 6.6. Computing Hubs KPIs will focus on priority schools and teachers, with wider targets on reach, sustained engagement, and impact. We will work with Hubs to develop a Delivery Plan. Each Hub will provide a programme of support addressing national priorities and identified local needs. Hubs will use their local knowledge to provide access to appropriate facilities for teachers in their area. Knowledge-rich CPD content will be provided by the NCCE. The Hub will draw on a pool of local Accredited CPD Facilitators, and access additional support from the NCCE.
- 6.7. The first 10 Hubs will be contracted from May 2019 to act as flag bearers for the NCCE and working with us on the development of systems and processes. The remaining 30 Hubs will be operational by September 2019. Hubs in the first tranche need to be able to commit staff time to working with the NCCE for the period May to September 2019, prior to CPD delivery starting in September 2019. Core funding will be allocated to those schools to meet staff costs during this mobilisation period.

7. Computing Hubs - part of a Network of support

- 7.1. A team of Regional Network Leads will liaise between the NCCE and Computing Hubs. Employed by STEM Learning, they will work closely with the Hubs to set targets, providing support to raise standards, and liaising with key regional groups and influencers as appropriate. They will bring Hubs together to share best practices, ensure comprehensive coverage, and maximise impact. The Regional Network Leads will monitor Hub effectiveness and intervene to ensure that quality, coverage and impact is maintained and continuously improved. This includes early identification of under-performance, working with those responsible to put in place remediation plans or identifying and deploying alternative arrangements that ensure continuity of support.
- 7.2. The NCCE will provide online tools to support Hubs and ensure consistency across the Network, including individual teacher accounts, a CPD and event booking system, online resources, and impact monitoring tools. This will substantially reduce the workload involved in schools operating as a Computing Hub.
- 7.3. The NCCE will establish clear data sharing and reporting arrangements with the Computing Hubs, ensuring there is transparency about performance and proactively identifying issues with the Regional Network Leads.

8. Computing Hubs - Delivery expectations

- 8.1. Computing Hubs will work with local schools, senior leaders and appropriate others, to raise the profile and understanding across their area of the impact of subject specific CPD on pupils' learning and progression in computing. Hubs will be assisted to systematically identify current and emerging needs, signpost schools and teachers to existing provision where available and appropriate, and provide support directly as required.

- 8.2. Computing Hubs are a key strategic partner in the work of the NCCE. The Computing Hub is expected to nominate a primary point of contact who has responsibility for delivery of all contract requirements and achievement of the KPIs. They will hold the responsibility for the management of the allocated budget and preparation of management reports, and financial reports and invoicing.
- 8.3. Computing Hubs are required to deliver an agreed range of CPD in line with the agreed Computing Hub Delivery Plan. An overview of the face-to-face CPD provision is provided in Annex 1 and 2.
- 8.4. All proposed staff nominated to deliver CPD should be accredited to at least Associate level of the STEM CPD Quality Mark. This can be gained by successfully completing the 2-day NCCE CPD Facilitator Development Training.
- 8.5. In fulfilling the requirements of the role, each Computing Hub will be required to:
 - 8.5.1. deliver Face-to-face CPD provision in line with the agreed Computing Hub Delivery Plan utilising standardised CPD as supplied by the NCCE, to align to NCCE provision (see Annex 1) and the *CS Accelerator programme* (see Annex 2). All CPD content material will be made available by the NCCE national team.
 - 8.5.2. advertise all CPD in a timely manner through the supplied NCCE event booking system. Computing Hubs will plan and schedule CPD delivery, working with all processes and systems provided, accessing the support of STEM Learning if required.
 - 8.5.3. promote the NCCE *CS Accelerator Programme*, with locally delivered CPD a key component alongside mandatory online CPD, encouraging all participating teachers to complete and progress to certification.
 - 8.5.4. provide venues across the region for teachers to access face-to-face CPD. Venues must be within a reasonable day's travel of all teachers and within a region. The Hub will be required to provide suitable facilities to enable computing CPD. The facilities are to be quality assured by the Computing Hubs, maintained to high standards and specifications, which meets NCCE's quality and health and safety standards. STEM Learning will carry out ad hoc monitoring of adherence to the quality standards of the facilities utilised in the regions.
 - 8.5.5. The CPD offer should be delivered locally using a range of effective and suitable CPD experiences, to meet the needs of teachers, and to ensure effective coverage across the whole of the area.
 - 8.5.6. In order to support the CPD offer Hubs will be required to provide access to computers and/ or laptops and the ability to install required software including Microsoft PowerPoint/Word; Python IDLE; Flowgorithm and Scratch. STEM Learning will undertake quality assurance of CPD using analysis of participant data and other means.

- 8.5.7. Computing hubs are required to ensure all participating teachers' relevant data is captured accurately utilising the NCCE's systems and to use the data captured to inform targeted activity.
 - 8.5.8. use the NCCE's online impact toolkit to collate feedback and assess impact of CPD delivered.
 - 8.5.9. deliver CPD Facilitator training in their region aligning to the CPD Quality Mark to support effort to build capacity and capability towards the school-led model of CPD support.
 - 8.5.10. organise regional events and networking opportunities to raise awareness of the NCCE, to engage and maintain teacher participation in the NCCE and wider offer, to include the promotion of the NCCE online offer.
 - 8.5.11. engage and draw upon the support of local CAS Communities of Practice to promote CPD and their wider offer to teachers, schools and colleges across their region with an expectation that each supports the CAS Communities of Practice with resources.
 - 8.5.12. Work with the NCCE central team and the wider Network of Computing Hubs and local CAS Communities of Practice to engage local employers and partners to support the wider ambitions for the NCCE
 - 8.5.13. ensure responsible and effective use of the NCCE brand in order to continue building brand awareness and a positive perception of the NCCE. Communication tools and templates will be provided by the NCCE to support email, print and social media. The NCCE will aim to increase brand awareness through the provision of national, network-wide communications.
 - 8.5.14. log communications activity in a timely fashion via the online system supplied by STEM Learning on behalf of the NCCE so that there is a comprehensive, up-to-date view of activity nationwide.
 - 8.5.15. attend up to 4 NCCE networking sessions involving all Computing Hubs and other appropriate partners.
- 8.6. Where appropriate to do so, Computing Hubs are expected to co-operate with one another such that the overall network is effective and dynamic. This could include, but is not restricted to attendance and contribution to appropriate network groups; collaborating across contractual 'borders' to ensure cohesive planning of CPD delivery and, where appropriate, sharing of staff and resources; promoting the work of all Computing Hubs as part of the NCCE network.

9. STEM Learning's role

- 9.1. STEM Learning will maintain oversight of the contract, and are responsible for:
 - 9.1.1. providing the strategic direction for the network of Computing Hubs in order to ensure delivery of the contracted obligations

- 9.1.2. ensuring responsible and effective use of the brand in order to continue building brand awareness and a positive perception of the NCCE
- 9.1.3. managing and directing the network and any network sessions as required
- 9.1.4. being the key point of contact between the Computing Hub and the NCCE in respect to CPD delivery and supporting efforts to build the capacity and capability towards the school-led CPD model
- 9.1.5. providing tools and systems to support recruitment, provision of management information, administration and information sharing across the network of Computing Hubs.
- 9.1.6. providing quality-assured CPD content, aligned to nationally identified needs.
- 9.2. The relevant Regional Network Lead has responsibility for overseeing the delivery of the services of their allocated Computing Hubs on behalf of STEM Learning.
- 9.3. The work of the Regional Network Lead will be supported by a programme team which will include programme and project management, contract management, communications, finance and IT staff.

10. Communicating with schools and colleges

- 10.1. Teachers should be enabled to easily access information about products and services being offered by the NCCE and its Computing Hub in their region. This will be achieved by communicating the work of the NCCE effectively and helping teachers and schools make the best decisions about which services can meet their needs and the needs of their school or college.
- 10.2. Each Computing Hub will be responsible for generating uptake of the CPD they offer. Funding is provided to enable the Computing Hub to fulfil this requirement. All Computing Hubs will contribute to recruitment of all CPD linked to the work of the NCCE.
- 10.3. Computing Hubs will be responsible for liaison with individual schools and colleges in their region. Computing Hubs will be required to submit a **CPD recruitment plan** to the Regional Network Lead for approval. Progress against this plan will be monitored on a monthly basis.
- 10.4. As part of their recruitment plan, Computing Hubs will develop a strategy for recruiting teachers/lecturers in schools and colleges to participate in CPD, utilising appropriate strategies including those used successfully in other regions.
- 10.5. The plan is likely to include print, e-mail, online, and telephone communications as well as face-to-face liaison with schools and colleges. The volume, distribution, content and frequency for each form of communication is to be agreed with the Regional Network Lead. The NCCE Communications Team will also support the Computing Hubs in the creation and execution of this plan through the provision of advice and relevant expertise.

- 10.6. To maintain consistency of message and to facilitate the effective network-wide communication of the CPD offer, Computing Hubs will use a range of templates, tools and services provided by the NCCE.
- 10.7. A list of activities to be undertaken by Computing Hubs and activities to be carried out by STEM Learning (as part of the NCCE) is given below. Further details will be made available in due course.

<u>Computing Hubs will deliver:</u>	<u>NCCE will deliver:</u>
E-mail or telephone communications to inform schools and colleges about the CPD and support available.	Print communications to schools and colleges, including information about regional CPD services.
Online communications at local and regional level, including input into a regional overview page on the NCCE website, CPD offers etc.	Production of templates for use by Computing Hubs for print, e-mail, etc.
	Online information regarding NCCE activity and initiatives, network/hub level information and contact details, news items, user tools and profile information, plus social media activity and email communications.
Local and regional stakeholder communications.	Centralised partnership relations and stakeholder communications.
Attendance at local and regional conferences and exhibitions.	Attendance at national conferences and exhibitions.
Local and regional liaison with schools and colleges.	Co-ordination of appropriate communications services for use by Computing Hubs e.g. Spirit database, e-mail system/ telephone agency.
	Management and quality assurance of the use of the NCCE brand.

11. Accountability and Reporting

- 11.1. The Computing Hub will be accountable to the Regional Network Lead for delivery of all activities undertaken under the NCCE brand. By September 2019 each Computing Hub will have agreed its **Computing Hub Delivery Plan** and an associated recruitment plan for engaging with teachers with their allocated Regional Network Lead.

- 11.2. Performance will be monitored by the Regional Network Lead or their delegate in accordance with the defined roles and responsibilities and the accountability requirements in the contract.
- 11.3. The minimum reporting requirements of each Computing Hub are to:
- 11.3.1. report as required by the NCCE against the specified KPIs
 - 11.3.2. attend a termly contract review meeting with the relevant Regional Network Lead and/or other NCCE staff.
 - 11.3.3. submit a monthly narrative and statistical reports on the work of the Computing Hub, against set criteria, that will include evidence of impact along with progress against the operational and recruitment plans, and management of risks by the last working day of the month.
 - 11.3.4. respond to reasonable ad hoc requests for further information as required by the Regional Network Lead and other NCCE staff as appropriate.
- 11.4. STEM Learning will audit the performance of the Computing Hub at the end of each term. Where underperformance is identified, interim measures will be put into place by Regional Network Lead to support Computing Hub improvement. In the event that these measures fail, contract termination may be pursued.

12. Accountability Measures

- 12.1. Computing Hubs will be accountable for demonstrating the successful delivery of the contracted services, the achievement of the agreed outcomes and targets, and evidence of the impact of the services on computing education.
- 12.2. Each Computing Hub will be assigned a Hub Delivery Plan as part of the contractual obligations. The Hub Delivery Plan will take into account the regional context, and any specific challenges and opportunities within which the Hub will operate (e.g. number of schools and colleges; number of priority schools; rural schools etc.). A typical Hub Delivery Plan is provided in Annex 3 for illustrative purposes only.
- 12.3. As part of the Hub Delivery Plan, key outcomes and performance indicators are:

CPD Facilitator training	To have trained a minimum of one primary and one secondary Facilitator through the NCCE CPD Quality Mark process by end of September 2019. To have trained a further agreed volume of Facilitators by the end of March 2020 to enable delivery of the CPD plan.
NCCE Core CPD⁴	To deliver:

⁴ For the NCCE Core CPD, a fee of £35 will apply for all non-priority schools. For priority schools, no fee will apply, and schools will be eligible for a bursary of £100 per participant. STEM Learning will administer the fee and bursary arrangements directly with schools and colleges.

	<p>An agreed volume of face-to-face CPD courses during the period to engage teachers from priority secondary schools; teachers from priority primary schools⁵; and teachers from non-priority schools.</p> <p>(The suite of NCCE Core CPD currently consists of 6 courses across all key stages in primary and secondary schools – 2 x 1-day courses, 3 x 2-day courses and 1 x 4-day course.)</p> <p>Each course must be scheduled to be delivered at least once during an academic year, and the delivery should be balanced throughout the full school year.</p>
NCCE Additional CPD	To deliver an additional programme of CPD across primary, secondary and FE phases, appropriate for locally identified need. This is at the discretion of the Hub, in support of the NCCE CPD programme (not the CS Accelerator programme).
CS Accelerator Programme⁶	<p>To deliver:</p> <p>An agreed volume of each of the CPD episodes of the programme to engage a minimum number of eligible teachers in the programme. CPD Delivery should ensure that at least the agreed volume of secondary computing teachers register, start and complete the entire CS Accelerator programme, comprising at least 40 hours of study time.</p> <p>(The suite of CS Accelerator CPD consists 4 x 2-day courses.)</p>
Promoting the NCCE and its programmes	<p>With volumes as defined with the Hub Delivery Plan, engage an agreed number of schools/colleges with the NCCE and its associated programmes, of which a proportion will be primary schools in category 5 and 6 areas, and secondary schools in category 5 and 6 areas.</p> <p>Engage with local employers and stakeholders as appropriate. To organise regional events to raise awareness of the NCCE offer and CPD programme of support.</p>

13. Funding

- 13.1. The funds payable under this contract are determined by the successful delivery of the contracted services resulting in the achievement of the agreed outcomes and evidence of impact on computing education.
- 13.2. Computing Hubs are to invoice STEM Learning in arrears on a monthly basis.

⁵ It is noted that flexibility will be required where there are low levels of category 5 & 6 schools, and more dense populations in others. This will be subject to negotiation at contracting stage.

⁶ All Eligible teachers will be entitled to a bursary payment of Core Bursary of up to £1,430 per Eligible Teacher, equivalent to 6.5 days of classroom cover at a rate of £220 per day. STEM Learning will administer the bursary arrangements directly with schools and colleges.

13.3. By signing up to the subcontract and the services set out in this specification, the Computing Hub is ensuring that the specified services are delivered. Computing Hubs are to be paid on the basis of achieving the agreed outcomes and impact.

13.4. The funding available for each Computing Hub to carry out the work is set out in the following table.

<p>Fixed cost Infrastructure Payment</p>	<p>Contract for services as per the general obligations contained within the contract between the NCCE and the lead school nominated as a Computing Hub.</p> <p>The amount payable as a contribution towards the cost of the provision of the following dedicated resource:</p> <p>High Performance Computing Hub⁷</p> <ul style="list-style-type: none"> • Hub (secondary) Lead for a minimum of 3 days per week • Hub (primary) Lead for a minimum of 2 days per week • Administrator for a minimum of 2 days per week. <p>High Capacity Computing Hub⁸</p> <ul style="list-style-type: none"> • Hub (secondary) Lead for a minimum of 3 days per week • Hub (primary) Lead for a minimum of 2 days per week • Administrator for a minimum of 2 days per week. • CS Champion (full time) • Computing Subject Matter Expert (full time) 	<p>Claim monthly in arrears (30 days payment terms)</p>
<p>Variable Performance Payment</p>	<p>Payable termly on achievement of the KPIs specified in the Hub Delivery Plan, or as agreed in writing with STEM Learning.</p>	<p>Monthly in arrears (30 day payment terms)</p>
<p>Regional engagement activity</p>	<p>Activity in line with agreed Hub Recruitment Plan.</p>	<p>Monthly in arrears (30 day payment terms)</p>

13.5. This funding is on the basis of the Computing Hub meeting the outcomes identified in the table above, and in line with the agreed Hub Delivery Plan.

⁷ If such resources are withdrawn, the fee will be proportionately reduced and discussions will be held between STEM Learning and the Computing Hub regarding how to manage delivery in the absence of such resources.

⁸ If such resources are withdrawn, the fee will be proportionately reduced and discussions will be held between STEM Learning and the Computing Hub regarding how to manage delivery in the absence of such resources.

- 13.6. In addition to the ongoing reporting and monitoring, progress towards meeting the KPIs will be formally reviewed by STEM Learning with a date to be agreed and, should the Computing Hub not be on track STEM Learning will require the Computing Hub to set out an improvement plan.
- 13.7. Bursary funding for eligible teachers engaging in the CS Accelerator Programme will be provided and administered by the NCCE. An eligible teacher is a secondary teacher of computing or computer science without a post-A level qualification in Computer Science or a related subject. Examples of 'related subjects' include Information Systems, Software Engineering, Artificial Intelligence and Health Informatics. For clarity, in this context, post-A level qualifications in Computing or ICT are not considered 'related subjects'.

14. Timetable

Action	Date
Issue of ITT for Computing Hub	Monday 14 January 2019
Briefing sessions	Venues to be confirmed - to be held regionally between mid-January – 15 February 2019
Submission of tenders	Monday 25 February 2019, 5pm
NCCE review of tenders	26 February to 8 March 2019
Follow-up/points of clarification discussions with bidders	11 – 13 March 2019
Notification to successful bidders	3 – 5 April 2019
Initial briefing session for successful bidders	May – July 2019
Contracts issued	April/May 2019
Contract starts:	
First tranche of 10 Computing Hubs ⁹	1 May 2019
Second tranche of 30 Computing Hubs	1 September 2019
Contract ends:	31 July 2022

15. Instructions to bidders

- 15.1. Please read the instructions on the tendering procedures carefully. Failure to comply with them may invalidate your tender which must be returned by the date and time given below.

⁹ Schools/colleges wishing to be considered for the first tranche of Computing Hubs might be able to allocate staffing time to a minimum of 3 days per week. Core funding will be provided.

- 15.2. Proposals should provide the following information:
- 15.2.1. Name and description of the school or college applying
 - 15.2.2. Name and role of the member of staff within the institution who will act as the primary point of contact, and who has responsibility for delivery of all contract requirements, achieving the KPIs, the management of the allocated budget, preparation of management reports, and financial reports and invoicing.
 - 15.2.3. Experience to date of the nominated person managing activity of this sort.
 - 15.2.4. Details of existing staff who will be providing the services together with a credible plan for ensuring capacity is in place to begin delivery in line with the timescales set out in this document.
 - 15.2.5. Which role your institution is applying for, High Capacity Hub and/or High Performance Hub
 - 15.2.6. Detail how you meet the requirements of High Capacity Hub and/or High Performance Hub outlining clearly the school or college's experience to date of:
 - 15.2.6.1. leading CPD for computing teachers or any other relevant subject
 - 15.2.6.2. participating as part of national CPD programmes
 - 15.2.6.3. raising awareness amongst schools and colleges in the region of CPD programmes
 - 15.2.7. If you wish to be considered in the first tranche of Computing Hubs (to start May 2019) or the second tranche (to start September 2019). To be eligible to start in the first tranche schools/colleges must be able to release at least 1 member of staff for a least 3 days per week to support the early stages of mobilisation.
 - 15.2.8. The Local Authority areas of the country that the proposer will be supporting, which will become the region for the delivery partner if successful. Local Authority areas can be identified and confirmed within the Government Office regions if necessary.
 - 15.2.9. Confirmation that the institution has the necessary policies and legal status to manage projects in line with good project and people management practices, compliance with requirements in financial and information security. More details of specific requirements can be provided on request.
 - 15.2.10. The planned approach to engaging schools and teachers in the work of the NCCE and its associated programmes, together with any evidence of past success in school/college and teacher engagement.

- 15.2.11. The planned approach to identifying and recruiting teachers for facilitator training.
- 15.2.12. The planned approach to recruiting teachers to the CPD programmes, together with any evidence of past success in similar programmes.
- 15.2.13. How the proposal delivers value for money.
- 15.3. Submissions should be between 5 and 7 pages in length.
- 15.4. Proposals will be evaluated against the following criteria:
 - 15.4.1. the track record, especially of named individuals
 - 15.4.2. credible evidence of past activity providing CPD in computing to schools in the area
 - 15.4.3. credible evidence of promoting the teaching of computing with schools in the region
 - 15.4.4. experience of delivering CPD as part of a coordinated national programme
 - 15.4.5. established partnerships with organisations and individuals that can support delivery
 - 15.4.6. credible plans to have the necessary people in place to commence delivery in September 2019, and May 2019 should you wish to be considered for the first tranche.
 - 15.4.7. credible plans to meet the deliverables and KPIs
 - 15.4.8. commitment to the reporting requirements set out in this document
 - 15.4.9. compliance with all laws and regulations relating to the activities including, without limitation, anti-bribery and corruption laws, modern slavery laws, competition laws and laws protecting data privacy.
 - 15.4.10. the need for a geographical spread.
- 15.5. Proposals must be received by email to l.ishani@stem.org.uk, Louise Ishani, NCCE Programme Manager, STEM Learning, University of York, Heslington, York, YO10 5DD **no later than 5pm on Monday 25 February 2019**. Late tenders will not be considered.

16. Information on tendering procedures

Contract Period

- 16.1. The contract will run between 1 May 2019 to 31 July 2022 for the first 10 Computing Hubs, and 1 September 2019 to 31 July 2022 for the remaining 30 Computing Hubs.

Incomplete Tender

- 16.2. Tenders may be rejected if the information asked for in the specification is not given at the time of tendering.

Receipt of Tenders

- 16.3. Tenders will be received up to the time and date stated. Those received before the due date will be retained unopened until then. It is the responsibility of the tenderer to ensure that their tender is delivered no later than the appointed time.

Acceptance of Tenders

- 16.4. By issuing this invitation STEM Learning is not bound in any way and does not have to accept the lowest or any tender, and reserves the right to accept a portion of any tender, unless the tenderer expressly stipulates otherwise in their tender.

Costs and Expenses

- 16.5. You will not be entitled to claim from STEM Learning any costs or expenses which you may incur in preparing your tender whether or not your tender is successful.

Evaluation Criteria

- 16.6. The tender process will be conducted in a manner that ensures tenders are evaluated fairly to ascertain the economically most advantageous tender.
- 16.7. Your response to our requirement will be evaluated against the criteria set out in the selection and award criteria.
- 16.8. Bidders may be asked to present their proposals to a review panel for clarification purposes.

Basis of the Contract

- 16.9. The specification in this document, and the terms and conditions in the same document, together with any special requirements, will form the basis of the contract between the successful tenderer and STEM Learning.

Annex 1 - Overview of NCCE Core Provision

In order to reduce barriers to participation and maximise the reach and impact of the work of the National Centre for Computing Education, we are proposing that:

- a. All face-to-face CPD will be available at no cost to at least one teacher from each priority primary school, and all computing teachers in priority secondary schools. Each school will be eligible to a bursary of £100 per teacher to contribute towards supply cover/travel expenses.
- b. All face-to-face CPD will be available at no cost to teachers that are participating in the GCSE CS Accelerator training programme.
- c. For all other face to face CPD, a charge of £35 per session will apply to teachers from non-priority schools.
- d. All resources and online CPD will be available at no cost to any teacher.

The following National Centre for Computing Education face-to-face CPD should be delivered by the Computing Hub in line with Delivery Plan:

- 1 day Primary Programming and Algorithms
- 2 day Outstanding teaching of KS1 computing
- 2 day Outstanding teaching of KS2 computing
- 2 day Outstanding teaching of KS3 computing
- 4 day Outstanding GCSE CS teaching
- 1 day KS4 Computing for students not studying GCSE CS

Annex 2 – Overview of the CS Accelerator GCSE Programme

The CPD for the CS Accelerator programme is based on a Professional Development Framework that we have developed, which covers the subject knowledge required to effectively teach the GCSE CS. Our Professional Development Framework draws upon expert evidence and our combined experience in supporting computer science education, which highlights what teachers need from professional learning, such as collaborative, professional learning programmes sustained over time direct relevance to learner outcomes, and a sense of ownership and autonomy of their professional learning. Every teacher’s personal journey is shaped by their diagnostic assessment which will test their subject knowledge and produce a priority list of CPD opportunities available locally and online.

Diagram 2 below shows a draft of proposed course modules, with individual units of CPD that will be delivered online and / or face-to-face. In total, we will provide at least 200 hours of content-rich CPD, including four two-day face-to-face CPD courses and twenty online courses. The four fundamentals courses (available face-to-face and online) provide an in-depth grounding in the core elements of the curriculum, alongside a suite of additional online advanced modules covering more challenging areas of the curriculum.

NCCE “CS Accelerator” programme CPD

- 2 day GCSE Python programming essentials
- 2 day GCSE Networks and cyber-security
- 2 day GCSE data and computer systems
- 2 day GCSE Algorithms

Schools completing the programme will be entitled to a Core Bursary of up to £1,430 per Eligible Teacher, equivalent to 6.5 days of classroom cover at a rate of £220 per day. This provides sufficient time to complete the minimum 40 hours of CPD required, including at least 24 hours of face-to-face CPD including gap tasks, at least 16 hours of online learning, and the summative assessment. All bursary payments will be administered by STEM Learning.

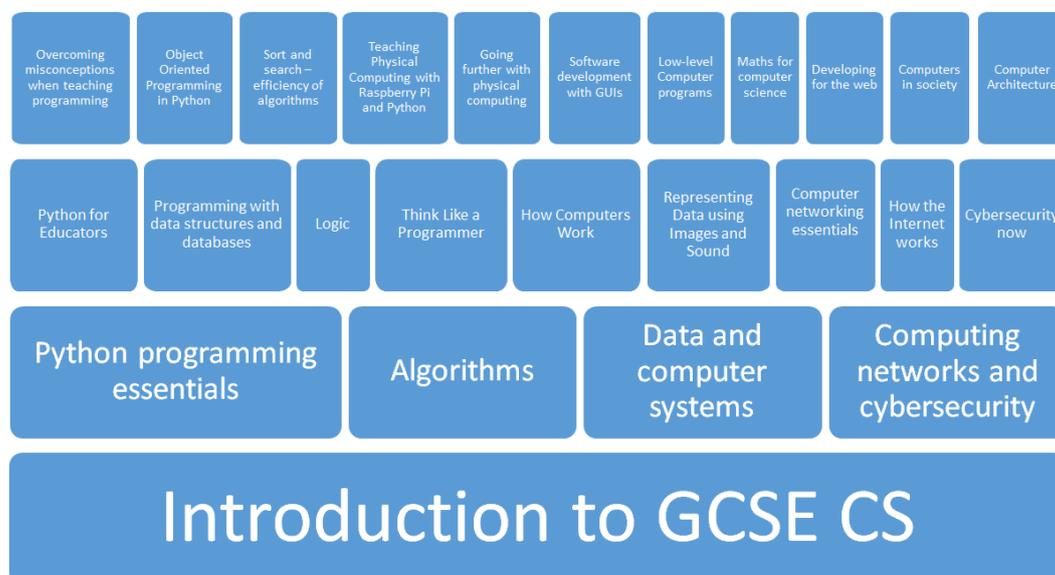


Diagram 2 – Overview of the CPD modules of the CS Accelerator GCSE Training Programme

In addition, recognising that teachers will join the programme with differing levels of existing subject knowledge, schools will be able to access Enhanced Bursaries for Eligible Teachers who require additional CPD to reach the required standard. Schools will also be able to apply for Enhanced Bursaries to cover high levels of travel costs for Eligible Teachers attending face-to-face CPD and other extraordinary costs that may present barriers to participation.

The CS Accelerator programme currently includes 4 x 2-day face-to-face courses. This may increase to reflect changes to the expectations of GCSE delivery and assessment.

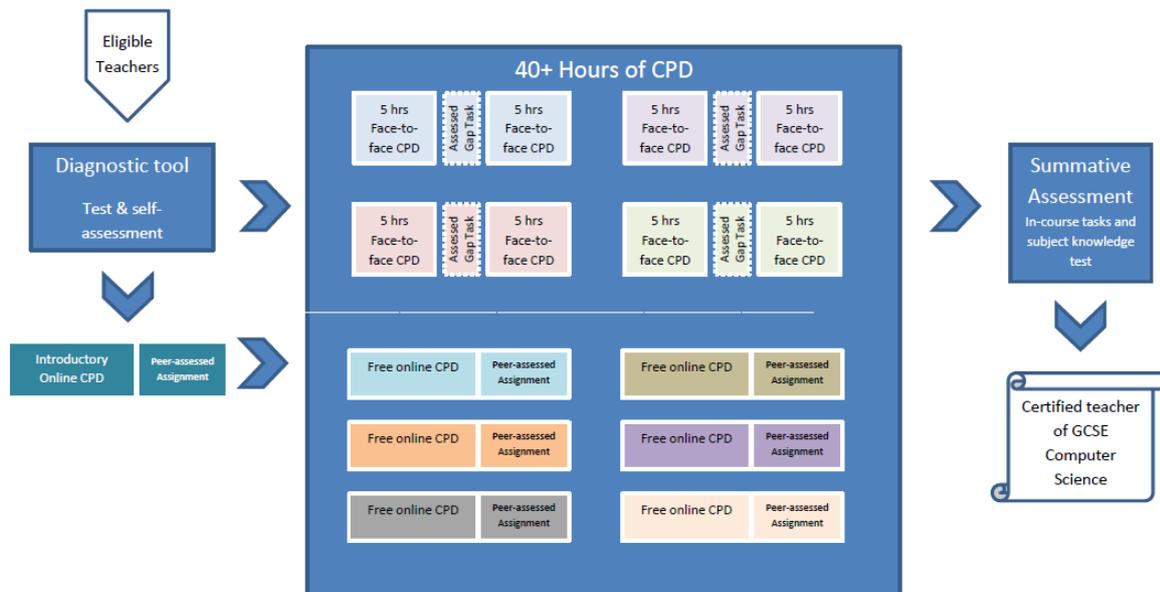


Diagram 3 – Overview of the CS Accelerator GCSE Training Programme

Annex 3 – Draft Computing Hub Delivery Plan (for illustration purposes)

Illustrative Computing Hub Delivery Plan -

example annual volumes (final volumes will be dependent upon a variety of factors such as geographical reach within defined region of Computing Hubs, mix of priority and non-priority schools etc.)

Example Annual Volume Ranges per Hub

	September 2019 - July 2020	Aug 2020 - July 2021	Aug 2021 - July 2022
KPI			
Reach			
Secondary Priority Schools	13 - 20	20 - 30	23-35
Priority Primary Schools Engaged	60 - 75	87 - 100	110 - 130
Non Priority Schools engaged	100 - 150	180 - 195	242 - 260
Secondary Priority Teacher Engagement with:			
Face to Face CPD	13-20	20-30	25-40
Online CPD	13-20	17-28	16 - 30
Communities of Practice	6 to 12	10 to 20	15 - 28
Primary Priority Teacher Engagement with:			
Face to Face CPD	25-35	42-55	55-65
Online CPD	42 - 55	55-65	55-65
Communities of Practice	40 - 53	55-65	80 - 95
Non Priority Teacher Engagement with:			
Face to Face CPD	60 - 75	95 - 120	135-145
Online CPD	235 - 250	300 - 350	300 - 325
Communities of Practice	70 - 90	100 - 120	145 - 170
Computer Science Accelerator Programme			
Secondary Priority Teachers Engaged	2 to 10	4 to 12	8 to 15
Non Priority Teachers engaged	80-100	140-160	160 - 200
Teacher Engagement with:			
Face to Face CPD	100-150	130-150	110-125
Online CPD	52-65	75-90	100-115
CSA Programme Completion			
Secondary Priority Teachers completing	1 to 4	2 to 6	2 to 10
Non Priority Teachers completing	40 - 60	70-90	90 - 100
Facilitator Training			
Number of trained CPD Facilitators	18 to 25	18-25	5 to 7
Employer and partnership engagement			
Number of employers/partners engaged	10 to 15	15 to 25	25 to 35