

Birmingham City University

**Secondary
PGCE**

**Computer Science Mentor
Training Guide**

2017/18

This mentor guide provides easy access to the overview of the PGCE Core and School Direct Secondary programme and outlines the role of the subject/professional mentor within the partnership. The guide has a subject or professional focus to help you with the explicit demands of your mentoring role so that you can easily plan your mentoring interactions with trainee teachers within your context.

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Introduction to the Partnership

We welcome our partner schools to our PGCE Secondary course which trains specialist teachers of Art & Design, Computer Science, Design & Technology (Food & Textiles), Drama, English, Mathematics, Modern Foreign Languages, Music, Science (Biology, Physics and Chemistry) and Religious Education. In addition to these subjects we also support Geography, History, Psychology and PE via our School Direct route. The course was rewritten in 2016 by a team of tutors and mentors from the Faculty of Health, Education and Life Sciences at Birmingham City University and secondary school partners in the West Midlands. We are very grateful to all who participated in this as part of the practical outworking of partnership.

This mentor guide contains an outline of the activities tutors, mentors and trainee teachers will engage in as part of the partnership in the training and professional development of future teachers in secondary schools. Our intention is that the information contained in this guide will enable all of our partners to have a holistic understanding of the course and a more specific knowledge of the roles and responsibilities of its stakeholders. In the Faculty of Health, Education and Life Sciences we work on specific subject teaching methodologies and develop trainees thinking and understanding of education, pedagogy and professional issues. Trainee teachers are introduced to the concept of profiling their own achievements, setting targets for their future development, and planning ways of ensuring that they achieve the standards which must be met for the award of QTS (*The Teachers' Standards, DfE, 2012*).

The PGCE Secondary Course aims to produce highly skilled graduate teachers who:

- Have a deep knowledge and understanding of learning and teaching enabling them to demonstrate the highest levels of professional practice.
- Are committed early career professionals who are confident, creative, reflective and accountable practitioners, able to teach their subject in contemporary cultural contexts delivering a rich and diverse curriculum.
- Are able to exercise professional judgement, based on an informed understanding of a systematic and coherent body of knowledge related to education and subject pedagogy.

DBS Enhanced Disclosures and Safeguarding

The University, in its role as effectively the employer is responsible for ensuring that all trainees go through the Enhanced DBS Disclosure process, regardless of whether they already have a recent DBS Disclosure, and for ensuring that there are no issues disclosed that would preclude the trainee from working with children or other vulnerable individuals.

In response to recent requests from partnership schools our trainees will receive a letter from the University to confirm that the DBS process has taken place. Trainees will bring this letter to their placement schools. We are grateful to the schools and professional mentors who have guided us in developing this document.

Key Contacts

Name	Role	Contact
Kelly Davey Nicklin	PGCE Secondary Programme Leader & Music Subject Leader	0121 331 5176 kelly.daveynicklin@bcu.ac.uk
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Ian Axtell	Music Subject Tutor	0121 331 7322 ian.axtell@bcu.ac.uk
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Peter Carr	Art & Design Subject Leader	0121 331 5156 peter.carr@bcu.ac.uk
Fiona Darby	English Subject Tutor	0121 331 7736 fiona.darby@bcu.ac.uk
Stuart Davison	Computer Science Subject Leader	0121 331 7375 stuart.davison@bcu.ac.uk
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Simon Tresidder	SKE Programme Lead & Science Subject Tutor	0121 331 7660 simon.tresidder@bcu.ac.uk
Shane Walsh	Mathematics Subject Tutor	shane.walsh@bcu.ac.uk
Jennifer Whitford	Religious Education Subject Leader	0121 331 7614 jennifer.whitford@bcu.ac.uk
Kevin Mattinson	Head of School of Education	0121 331 7337 kevin.mattinson@bcu.ac.uk
Simon Spencer	Deputy Head School of Education & Drama Subject Tutor	0121 331 7356 simon.spencer@bcu.ac.uk
Davinder Dosanjh	Head of Dept. Secondary & Post Compulsory Education	0121 331 6865 davinder.dosanjh@bcu.ac.uk
Helen Yorke	Director of Education Partnerships	0121 331 7355 helen.yorke@bcu.ac.uk

*Please note that the best method of contact for a swift response from a subject tutor is email contact.

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Strategic Leadership Committee

The purpose of the Strategic Leadership Committee is to ensure that the future direction of the BCU PGCE programme is driven by a focus on school-led issues. The role of the Chair, professional and subject mentor reps on the Strategic Leadership Committee is to collect feedback from regional schools and to represent them to ensure that the future workforce requirements of partner schools are gathered, collated and implemented as focussed actions for the PGCE programme.

The Strategic Leadership Committee:

- Directly challenges the course team on their improvement plan and their self-evaluation documentation.
- Gathers mentor feedback on placements and the course, and considers trainee feedback through evaluations.
- Provides an essential bridge between HE research and school practice leading to evidence based research and evidence based practice.

If any of our partners would like to provide an input to the Strategic Leadership Committee please contact our Chair Kirsten Pearce kirsten.pearce@ctckingshurst.academy

Birmingham City University Secondary School Training Routes



Secondary ITT

Secondary Teacher Training Routes

Birmingham City University School of Education supports Secondary School trainee teachers through three distinct teacher training pathways which all provide the opportunity for trainees to be awarded with QTS and a PGCE. The three pathways include a Core PGCE programme, School Direct and the Teach First PGCE. Some schools support our trainees through more than one training route and university tutors work across the three programmes. There are key contacts that you can communicate with on each of the three teacher training routes if you have a specific question about the route that your trainee is following, and any communication that university makes with school will indicate specifically on the correspondence which route we are contacting about.

It is important for our mentors to recognise that the three routes follow different programmes of study, and therefore the requirements of our mentors on each programme are different. Trainees will follow different modules and will be assessed at different times within the academic year. Where possible university tutors within the School of Education have tried to ensure that practice across the three routes is consistent and comparable, however we suggest that mentors are aware of the route that their trainee is following and recognise that this training route may be different to other routes that Birmingham City University trainees are following within their school.

Route	Description	Partnership Page	Trainee Assessments	Key Contacts
Core PGCE	The Core PGCE route places trainees in two contrasting schools over the training year. Trainees gain substantial school based experience whilst studying theory at weekly university workshop days. The partnership trains secondary school teachers of Art & Design, Design and Technology (Food, Product Design and Textiles), Drama, Mathematics, Music, Science (Biology, Chemistry and Physics), RE and Computer Science. Partnership schools receive payments for their work with trainees.	http://www.bcu.ac.uk/education/partnerships-and-collaborations/secondary-partnerships	Block Placement A: Midpoint Review, End of Placement Report, Internal School Moderation Block Placement B: Midpoint Review, End of Placement Report, Internal School Moderation Assignment Module 1 (Professional Studies) Assignment Module 2 (Subject Pedagogy) Assignment Module 3 (Professional Enquiry) School Experience Progress Journal (SEPJ); Year Long	Kelly Davey Nicklin- Programme Leader 0121 331 5176 Sarah Bonser – Partnership Lead 0121 331 7736 Craig Davis – Placements Programme Administrator 0121 331 6591
School Direct PGCE	The School Direct route offers a tailored training programme that will meet the needs of training schools, their pupils, their teachers and their trainees. The training programme is designed by schools working in partnership with our university	http://www.bcu.ac.uk/education/partnerships-and-collaborations/school-direct	This will depend on the agreement between the partner school and the university	Kelly Davey Nicklin – Programme Leader 0121 331 5176 Sarah Bonser – Partnership Lead 0121 331 7736 Craig Davis – Placements Programme Administrator 0121 331 6591
Teach First PGCE	Teach First offer trainee teachers a two-year Leadership Development Programme (LDP) and the University awards the PGCE and QTS. Trainees are placed in a local employing school and begin to teach 60% of a qualified teacher's timetable from September 1 st . Trainee progress is continually monitored and supported by employing schools, Birmingham City University and Teach First.	http://www.bcu.ac.uk/education/partnerships-and-collaborations/teach-first	Summer Institute: June & July including a written assignment that must be passed to begin the course in September Termly Reports: December, March, June Assignment Module 1 (Emerging Philosophy of Teaching and Learning); January Assignment Module 2 (Leading Learning in the Community); May year 1 Assignment Module 3 (Collaborative Learning and Development); May year 2 Assignment Module 4 (Extending Impact and Influencing Others); May year 2 BlueSky Journal: Year long QTS Portfolio: Year long year 1	Caroline Montgomery - Programme Director (West Midlands) 0121 331 7277 Leanne Gould – Programme Director (East Midlands) 0121 331 6742 Sarah Bonser – Partnership Lead 0121 331 7736 Nathan Hawkins - Programme Administrator 0121 331 7699 Michelle Young - Programme Administrator 0121 331 7608

Course and Placements Overview PGCE and School Direct

Prior to enrolment at BCU trainee teachers spend one week in a Secondary School of their choice '**Home-Based School Experience**' and follow faculty suggested guidance to prepare them for the start of their PGCE training programme. Over the training year trainee teachers undertake teaching practices in two contrasting schools which provide a supportive training environment with progressively more challenging learning opportunities. For the **Block A placement**, trainees are usually paired in their subject on the Core route. For the **Block B placement** trainees are not paired and are placed in a contrasting school from their Block A placement. School Direct trainees are likely to be placed in two different schools during the Block B placement (usually returning to the host school for the last part of the course).

Block A Experience - Introductory weeks before half-term (Tuesday to Friday, 26th September - 20th October 2017)

- Structured observations and relevant directed tasks.
- Agree teaching timetable.
- Draft and revise units of work.
- Trainees experience a limited amount of teaching in a supported framework the expectation is that full teaching of some lessons takes place before half-term (enough to inform the midpoint review assessment on 10th November 2017).
- Completion of specific tasks in their School Experience Progress Journal (SEPJ).

Block A Experience – After half-term (Tuesday to Friday, 31st October- 22nd December 2017)

- Midpoint Review due in on **Friday 10th November 2017**.
- Trainees teach **14 hours of a subject timetable between them** (teaching can include team teaching with mentor, paired teaching with other trainees and solo teaching). Each individual trainee must lead on 7 hours of teaching and partner for 7 hours making 14 hours in total. For School Direct trainees the same number of hours applies (7 per trainee).
- Timetabled opportunity (one day) to spend time in a feeder **Primary school**.
- Completion of relevant SEPJ tasks.
- Gathering of evidence toward the Teachers' Standards.
- Gain familiarity with a second subject where appropriate.
- Mentors complete an assessment of trainees' progress called the 'end of placement report' due in by **22nd December 2017**.

Block B Experience – Introductory weeks before half-term (Tuesday to Friday, 23rd January - 16th February 2018)

- Structured observations and relevant directed tasks.
- Agree teaching timetable for block placements including form tutor role and a one week 'Enrichment' placement. 'Enrichment' placements should enable trainees to further develop their experience and understanding in an aspect of their training not yet addressed (e.g. post-16 teaching, EAL, SEND, etc.) Post-16 should be prioritised for the 'Enrichment' placement if there is no provision for this in either the trainees' Block A or Block B placements. The 'Enrichment' placement should take place in a different school.
- Draft and revise units of work/ undertake preparatory tasks.
- Completion of specific tasks in the SEPJ.

Block B School Experience – After half-term (Monday – Friday, 26th February- 25th May)

- Midpoint Review due in on **Friday 9th March 2018**.
- Trainees teach **15 hours of their first subject per week**.
- Trainees undertake the range of duties and responsibilities expected of NQTs (form tutoring, break duties, reporting to parents, meetings and contributing to the life and ethos of the school).
- Completion of relevant SEPJ tasks.
- Gathering of evidence toward the Teachers' Standards.
- Trainee to complete their 'Enrichment' placement (5 days) as outlined above.
- Mentors complete an assessment of trainees' progress called the 'end of placement report' due in by **Friday 25th May 2018**.

Progress Review Days

These are days when trainees are required to attend University for all or part of the day to meet with their Personal Development Tutor to discuss the trainees' progress to date.

Year Overview

	2017/18 W/C	Monday	Tuesday	Wednesday	Thursday	Friday
05	28 August	HBSE (in advance)				Induction & enrolment
06	04 September	University-based training week (Professional Studies)				
07	11 September	University-based training week (Professional Studies)				
08	18 September	University-based training week (Professional Studies, Mentor training Weds 20th Sept)				
09	25 September	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
10	02 October	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
11	09 October	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
12	16 October	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
13	23 October	Block A Planning & Preparation/School Half Term				
14	30 October	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
15	06 November	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
16	13 November	Progress Review Mtg BCU	Block A school	Block A school	Block A school	Block A school
17	20 November	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
18	27 November	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
19	04 December	Reading & Study Day BCU	Block A school	Block A school	Block A school	Block A school
20	11 December	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
21	18 December	Subject Workshop BCU	Block A school	Block A school	Block A school	Block A school
22	25 December	Christmas Holiday				
23	01 January					
24	08 January	University-based training week (Professional Studies)				
25	15 January	University-based training week (Professional Studies, Mentor training Weds 17th Jan)				
26	22 January	Subject Workshop BCU	Block B school	Block B school	Block B school	Block B school
27	29 January	Subject Workshop BCU	Block B school	Block B school	Block B school	Block B school
28	05 February	Prof Studies Day BCU	Block B school	Block B school	Block B school	Block B school
29	12 February	Prof Enquiry Day 1 BCU	Block B school	Block B school	Block B school	Block B school
30	19 February	Block B Planning & Preparation/School Half Term				
31	26 February	Block B school	Block B school	Block B school	Block B school	Block B school
32	05 March	Block B school	Block B school	Block B school	Block B school	Block B school
33	12 March	Progress Review Mtg BCU	Block B school	Block B school	Block B school	Block B school
34	19 March	Block B school	Block B school	Block B school	Block B school	Block B school
35	26 March	Block B school	Block B school	Block B school	Block B school	Easter
36	02 April	Easter Holiday				
37	09 April					
38	16 April	Prof Enquiry Day 2 BCU	Block B school	Block B school	Block B school	Block B school
39	23 April	Block B school	Block B school	Block B school	Block B school	Block B school
40	30 April	Block B school	Block B school	Block B school	Block B school	Block B school
41	07 May	Bank Holiday	Block B school	Block B school	Block B school	Block B school
42	14 May	Block B school	Block B school	Block B school	Block B school	Block B school
43	21 May	Block B school	Block B school	Block B school	Block B school	Block B school

44	28 May	School Half Term – End of Block B placement
45	04 June	
46	11 June	
47	18 June	
48	25 June	University- Final Week

Subject Workshop days and other BCU days in blue indicate sessions where external School Direct or SCITT trainees attend BCU (as agreed with the partnership director – this may not apply to all external partners).

Key Dates

Assignment Submission Dates

Module / Assignment	Formative Feedback Date	Final Submission Date
Pre course task Diagnostic Assignment	N/A	22/9/17
EDU7344 School Experience 1	10/11/17 (Midpoint Review)	22/12/17 (End of placement report)
EDU7343 Professional Studies	13/11/17	8/1/18
EDU7346 Secondary Subject Pedagogy	12/3/18	16/4/18
EDU7344 School Experience 2	9/03/18 (Midpoint Review)	25/5/18 (End of placement report)
EDU7342 Professional Enquiry	12/03/18	<p>‘Core’ Presentations: 19/6/18 or 20/6/18</p> <p>‘School Direct’ Presentations (RSA, Haybridge, Coventry SCITT): 18/6/18</p>

Block A School Experience Key Dates

School Experience 2		
Midpoint Review	10/11/17	Send via email to secondarytpdocuments@bcu.ac.uk
Progress review meeting 2	13/11/17	Trainees are required to attend University for all or part of the day to meet with their Personal Development Tutor to discuss the trainees’ progress to date.
End of Placement Report	22/12/17	Send via email to secondarytpdocuments@bcu.ac.uk
Placement Evaluation	22/12/17	A link to the online placement evaluation will be emailed out to all subject and professional mentors.

Block B School Experience Key Dates

School Experience 2		
Midpoint Review	10/3/18	Send via email to secondarytpdocuments@bcu.ac.uk
Progress review 4	12/3/18	Trainees are required to attend University for all or part of the day to meet with their Personal Development Tutor to discuss the trainees' progress to date.
Professional Enquiry Day 2	16/04/18	Trainees are required to attend University for the day for activities relating to their Professional Enquiry assignment.
End of Placement Report	25/5/18	Send via email to secondarytpdocuments@bcu.ac.uk (Please note that part of this document needs to be signed using a hand written signature, Scanned versions sent via email are accepted.)
Placement Evaluation	25/5/18	A link to the online placement evaluation will be emailed out to all subject and professional mentors

Computer Science Training Overview

Throughout the training year the University runs compulsory professional and subject training days which trainees attend before either the Block A or Block B School placements and on Mondays during the placement period. The university based training days develop the trainee's knowledge of professional and subject teaching issues.

Computer Science Training Overview	
Date	Workshop Title
18/09/17	Progression in computing: developing IT and computer science knowledge and skills over time
25/09/17	Teaching block-based programming
02/10/17	Progressing to text-based languages
09/10/17	Problem solving
16/10/17	Planning computing lessons
30/10/17	Assessment in computing
06/11/17	Practical learning
20/11/17	Low level programming
27/11/17	Data representation
11/12/17	Designing modular solutions
18/12/17	Programming paradigms
22/01/17	Differentiating complex topics
29/01/18	Networking

Key Mentor and Trainee Documentation

Partner schools are reminded that the Secondary Partnership website includes the key documents relating to the PGCE Secondary and School Direct course for partner schools. The resources below can be found by navigating the tabs on the partnership homepage: <http://www.bcu.ac.uk/education/partnerships-and-collaborations/secondary-partnerships/overview>

Placement documentation:

- **Midpoint Review-** Analyses the progress at the midpoint of the placement against the Teachers' Standards. A Midpoint review is completed during both school placement 1 and 2 by the subject mentor and the trainee. The professional mentor and university tutor will moderate this process.
- **Trainee Support Framework-** Outlines the process of extra support through support plans to a cause for concern.
- **End of Placement Report Form-** A summative report of the trainee's attainment at the end of the school placement. The end of placement report form is completed by the subject mentor and the trainee. The professional mentor and university tutor will moderate this process.
- **Internal School Moderation Form (school 2 placements only) -** A record of internal school moderation of trainee teachers. Moderation should be conducted by the professional mentor or a mentor from a different subject area in discussion with the subject mentor with responsibility for the trainee.
- **Placement Evaluation-** This will be sent out to partner schools with further instructions via the BCU placements office.

Weekly documentation:

- **School Experience Progress Journal (SEPJ) -** Evidences progress over a placement. It provides a structure for weekly target setting, reflection and the collection of evidence and should be used to inform weekly mentor meetings. The SEPJ contains tasks that must be completed during the school placement.
- **Review and Analysis Forms (R&A) -** These are the forms where formal observations must be recorded. It is expected that trainees will be observed twice per week as a minimum. Written formative feedback will be provided on an R&A form which focusses on three Teaching Standards. These standards will be assessed using the university formative descriptors for trainees which grades trainees as 'Emerging, Establishing, Embedding or Enhancing'.
- **Formative Descriptors for Trainees (teaching standards tracker) -** Formative feedback guidance produced through collaboration between UCET and the HEA. The guidance provides a set of statements that outline the minimum standard that can be expected of trainee teachers at each stage of their development 'Emerging- Enhancing'. This document is used during observations and when completing formal/informal reviews of trainee progress.

Documents for Trainees:

- **Unit of work and lesson plan template-** For mentors to sign off prior to a trainees teaching.
- **BCU Timetable Template-** For trainees to upload to Moodle so that university tutors know trainee timetables.
- **Professional Practice Audit**
- **Professional Progress Pen Portrait** Should be reviewed by mentors to support the setup of the placement.
- **Subject Knowledge Action Plan**
- **Subject Knowledge Audit**

Roles and Responsibilities

The Professional Mentor:

- Organises and quality assures a trainee teachers' programme of activities during any induction stage and outside of the specialist subject
- Ensures that trainee teachers will not at any point be asked to cover for absent teachers
- Ensures that at all times trainee teachers are under the supervision of a qualified teacher
- Assigns trainee teachers to a tutor group
- Arranges opportunities for observation outside the specialist subject
- Arranges opportunities for experience in a second subject during block placements
- Arranges for trainees to visit feeder Primary schools in Block A and for post 16 experience in Block B (if not experienced in Block A)
- Provides opportunities for trainee teachers to attend appropriate school meetings
- Provides an appropriate CPD programme to complement the professional training provided at university covering whole school issues
- Monitors and contribute to a trainee teachers' completion of the SEPJ tasks
- Observes the trainee teaching **at least once** per placement through the completion of a **joint observation** with the subject mentor and gives feedback using the university R&A form
- Moderates the subject mentor's assessment of the trainee teacher
- Provides support for subject mentors in target setting and assessment
- Contributes to the completion of the End of Placement Report
- Quality assures subject mentoring in school, ensuring that subject mentors complete the duties outlined below.

The Subject Mentor:

- Organises a programme of observation and teaching within the specialist subject across different ages and abilities
- Supports the development of subject specific pedagogies and strategies for learning and teaching whilst developing a subject ethos and philosophy
- Provides access to the subject department's units (schemes) of work and relevant examination specifications materials
- Supports and guides the lesson planning process for the preparation of units of work
- Ensures the opportunity for trainee teachers to teach their specialist subject, as appropriate to the stage of training, including KS3, KS4, and, where possible, post-16 groups
- Provides access to relevant pupil information, such as assessment records and IEPs
- Assesses the quality of the SEPJ tasks
- Observes the trainee teaching **two times per week as a minimum** and provides written feedback on the university R&A form.
- Completes **at least one joint observation with the professional mentor** and **at least one joint observation with a university tutor** per placement.
- Signs off units of work before the trainee begins to teach.
- Provides a timetabled weekly review and guidance session.

- Reports progress of trainee teachers 'with professional mentors and university tutors.
- Provides opportunities for checking, signing and grading (where appropriate) SEPJ tasks which contributes to the achievement of the Teachers' Standards.
- Sets future Teachers' Standards targets, using the Weekly Review sheet.
- Regularly scrutinises trainee teachers' School Experience Files, including their written evaluations of teaching and their assessment records during Block placements
- Contributes to the Mid-point review indicating the trainee teacher's current progress and identifying any areas that might be a cause for concern
- Contributes to End of Placement Report at the end of each placement.
- Provides a final assessment of the trainee teacher's achievement of the Teachers' Standards (**Block B only**).
- Assists with drafting the Career Entry and Development Profile (**Block B only**).

Where trainees are teaching classes other than the subject mentor's we would encourage the class teacher to observe, both formally and informally, and give feedback. However, it is important that the subject mentor manages the process to ensure that the training experience remains coherent and targeted.

The University Tutor:

- Is a subject specialist tutor who supports the trainee throughout the PGCE programme.
- Is responsible for placing the trainee in their Block A and Block B placements (with the exception of School Direct) and ensuring that these offer a contrasting experience.
- Holds termly progress review meetings with trainees to discuss their progress towards achieving the Teachers' Standards.
- Is accountable for the delivery of PGCE modules and the marking and feedback of assignments (for those trainees following the Core route).
- Quality assures the quality of the SEPJ tasks.
- Agrees and monitors targets in relation to subject knowledge based on the subject knowledge audit.
- Provides an initial visit to each placement school to quality assure the provision.
- Visits the trainee **at least once** during Block A and Block B placements.
- Liaises with subject and professional mentors to ensure that appropriate training and CPD is provided throughout the placement.
- Jointly **observes the trainee teaching at least once** per placement **with the subject mentor**.
- Moderates the assessments made by school including lesson observations, feedback and the end of placement report.
- Liaises with placement schools to ensure that trainees are provided with Post- 16 experience.
- Recommends and assists in the organisation of visits by external examiners.
- Supports the trainee to complete their Career Entry Development Profile.
- Provides the trainees with a reference.

The Trainee Teacher:

- Will attend all taught sessions in the Faculty and carefully read all the information they are given to prepare themselves for school experience.
- Must attend timetabled progress review meetings in the Faculty and prepare for these as appropriate.
- Must be aware of the requirements for each placement and professionally negotiate an appropriate timetable which must include weekly timetabled training with mentors.
- Are responsible for their development towards meeting their agreed targets and the accumulation of appropriate evidence.
- Are responsible for their SEPJ and the evidence within it to demonstrate their progress towards the Teachers' Standards.
- Must follow guidelines for the professional behaviour expected in schools and demonstrate that they are meeting Part Two of the Teachers' Standards.
- Must work within the safeguarding protocols of the placement school.
- Must follow the requirements for school experience in relation to medium and short term planning, and ensure that units of work are signed by subject mentors before they can begin teaching.
- Should act upon advice given and targets set by mentors and tutors.
- Should negotiate appropriate learning opportunities for themselves.
- Is responsible for supporting the learning of pupils and passing on information to the class teacher.
- Is responsible for keeping their subject knowledge up to date.
- Is responsible for setting cover for classes that they would be teaching if they are not in school.

Observation and feedback in Computer Science

Subject mentors should formally observe trainees teach **at least two lessons per week** and give trainee teachers written feedback using Review and Analysis forms. The Review and Analysis form alongside the formative descriptors for trainee teachers on the Birmingham City University Teachers' Standards tracker should be used to indicate trainees' progress towards meeting the Teachers' Standards. The use of the formative descriptors helps the trainees and mentors to devise and take 'next steps' towards progress targets. Additionally, the descriptors strengthen consistency across the partnership by helping mentors, tutors and trainees to articulate the expectations that we have for achieving each of the Teachers' Standards.

Formative Descriptors for Trainees (Teachers' Standards Tracker)

Formative feedback guidance is set out for each Standard using progressive headings:

Emerging → Establishing → Embedding → Enhancing

S1: Set high expectations which inspire, motivate and challenge pupils				
Standard Prompts	Emerging (EMG)	Establishing (EST)	Embedding (EMB)	Enhancing (ENH)
a) Establish a safe and stimulating environment for pupils, rooted in mutual respect	<p>Unable to demonstrate the ability to encourage pupils to participate and contribute and/or create an atmosphere conducive to learning.</p> <p>Inadequate or inconsistent rapport developed with individuals and groups such that engagement in learning is hampered.</p> <p>Regularly require the intervention of other professionals to assist in maintaining a purposeful and safe learning environment.</p>	<p>Demonstrate the ability to encourage pupils to participate and contribute in an atmosphere conducive to learning.</p> <p>Develop a rapport with a range of individuals and groups so that most pupils are engaged in their learning.</p> <p>Routinely demonstrate the necessary understanding, presence and management skills to maintain a purposeful and safe learning environment.</p>	<p>Usually encourage pupils to participate and contribute in an atmosphere conducive to learning.</p> <p>Show respect for, and be well respected by, learners and effectively promote pupils' resilience, confidence and independence when tackling challenging activities.</p> <p>Demonstrate an extended range of strategies to establish and maintain a purposeful learning environment.</p>	<p>Consistently encourage pupils to participate and contribute in an atmosphere highly conducive to learning.</p> <p>Show high levels of mutual respect between the trainee and pupils. Very effective in promoting learners' resilience, confidence and independence when tackling challenging activities.</p> <p>Demonstrate innovative and creative strategies to establish and maintain a purposeful and safe learning environment.</p>
b) Set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions	Routinely requires the support of another professional to set goals that stretch and challenge pupils.	Routinely set goals that engage most pupils in their learning including those from the range of backgrounds represented and with special educational needs and/or disabilities.	Set goals that motivate, enthuse and motivate most pupils.	Set goals that generate high levels of enthusiasm for, participation in and commitment to learning in all pupils.
c) Demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils	<p>Unable to demonstrate positive attitudes, values and behaviour. Shows inconsistent or unequal respect for pupils, colleagues, parents/carers and lacking support for the ethos of the school. Unable to demonstrate sufficient enthusiasm for working with pupils and/or for teaching and learning.</p>	<p>Be able to demonstrate positive attitudes, values and behaviour. Show respect for pupils, colleagues, parents/carers and support the ethos of the school. Demonstrate enthusiasm for working with pupils and for teaching and learning.</p>	<p>Usually demonstrate positive attitudes, values and behaviour. Show respect for pupils, colleagues, parents/carers and actively support the ethos of the school. Most learners are enthused and motivated to actively participate in their learning.</p>	<p>Consistently demonstrate positive attitudes, values and behaviours. Show high levels of respect for pupils, colleagues, parents/carers and energetically support the ethos of the school. Generate high levels of enthusiasm, participation and commitment to learning for all pupils.</p>

For formative feedback purposes only, guidance is given for each sub-heading of each Standard. The language of the formative descriptors should be adopted during written and verbal feedback. This is to support trainees and mentor to *track progress against the standard, to determine areas where additional development might need to be observed, or to identify areas where a trainee or teacher is already demonstrating excellent practice relevant to that standard* (DfE). Please see the notes on summative assessment below.

The statements in relation to Part One of the Teachers' Standards set out typical characteristics of the practice of trainees. The expectation is that their practice will demonstrate improvement throughout their training and beyond. The formative feedback helps trainees and their assessors to identify progress in their achievement towards the Standards through the levels. Judgements from observations will be based on an assessment of the available evidence to decide which descriptor provides the 'best fit'. Formative feedback must be given for **achievement only**, not effort, intention or as a motivator

Review and Analysis Forms

All formal lesson observations must be completed using the BCU Review and Analysis forms (R&A). A copy can be downloaded at: <http://www.bcu.ac.uk/education/partnerships-and-collaborations/secondary-partnerships/documentation>

<p style="text-align: center;">PGCE Secondary Review and Analysis Form</p> <p style="text-align: center;">Part B: Lesson Summary and Targets:</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"> <p>Lesson strengths: (three minimum)</p> <p>List strengths linked to the 3 focus standards, refer explicitly to the standard strands</p> </div> <div style="width: 35%; text-align: center;"> <p>Teachers' Standard(s) no(s) to be added:</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"> <p>Developmental targets arising out of the lesson: (one minimum, no more than three).</p> <p>How can the trainee promote better pupil learning and progress?</p> <p>Provide targets that are linked to the 3 focus standards- try not to use the same strands as a strengths and developmental area</p> <p>Subject specific target(s)</p> <ul style="list-style-type: none"> • • </div> <div style="width: 35%; text-align: center;"> <p>Teachers' Standard(s) no(s) to be added:</p> </div> </div>	<p style="text-align: center;">PGCE Secondary Review and Analysis Form</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"> <p>Trainee Name:</p> <p>Date of Observation/Discussion:</p> <p>Subject:</p> <p>Placement (circle):</p> </div> <div style="width: 35%;"> <p>School:</p> <p>Sheet Number:</p> <p>Class Taught:</p> <p>Sch 1 Sch 2</p> </div> </div> <p><i>List below the Standard(s) being targeted during the lesson observation or review and guidance session:</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;">Teachers' Standard(s) and Standard Prompts observed or discussed:</th> <th style="width: 20%;">Formative Feedback</th> </tr> </thead> <tbody> <tr> <td>Choose only 3 standards to focus on</td> <td>Assessment (Emerging)</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </tbody> </table> <p>PART A: Formative comments from observations OR summary of training session/discussion:</p> <ul style="list-style-type: none"> • Use the language on the Standards Tracker to provide feedback on what is observed. • Comment on the progress within the 3 identified standards • Refer explicitly to the standard strands (5a, 6b) within the feedback • Strengths and areas for development are determined in terms progress against the teaching standards 	Teachers' Standard(s) and Standard Prompts observed or discussed:	Formative Feedback	Choose only 3 standards to focus on	Assessment (Emerging)				
Teachers' Standard(s) and Standard Prompts observed or discussed:	Formative Feedback								
Choose only 3 standards to focus on	Assessment (Emerging)								
<p>Signed (Mentor): _____ Date: _____</p> <p>Signed (Trainee): _____</p>									

Teachers' Standard(s) and Standard Prompts observed and discussed	Formative Feedback
3. Demonstrate good subject and curriculum knowledge	Establishing (EST)
Subject content taught to develop planning skills and appreciate use in real-world.	
2. Promote good progress and outcomes by pupils	Establishing (EST)
Pupils working independently to produce clear and accurate plans.	
4. Plan and teach well structured lessons	Emerging (EMG)
Develop ideas more fully to explore the nature of the subject content.	

PART A Comments from observations OR summary of training session / discussion:

<p>Good clear planning with clear progressive objectives (1.2, 4.5).</p> <p>Good calm entry into room. Consider using starter from when they come in for a quicker start to the lesson. Interesting activity promoting team work and understanding of the need for clear and precise instructions. Good use of questioning to excavate the correct answers but try to bounce other questions around the room to engage others and get them expanding on what was said (5.1, 5.3, 6.2, 6.4).</p> <p>Discussion about usefulness of flow charts. Try to expand on examples where flow charts are used so that pupils see the benefits not just the application. Good examples of flow charts but ask pupils to explain how they work to develop understanding of how to read them (4.2).</p> <p>Further discussion of flowchart shapes. Paired activity to identify shapes. Might work better as a more interactive / probing activity rather than recalling facts they have just heard about and discussed (complete a partially completed flowchart for example) (2.2, 2.5).</p> <p>Pupils work on booklets on their computers. Excellent working atmosphere. Pupils move onto next activity (some pupils slightly distracted with screens on - get them to turn them off so there is no chance to be distracted). Activity asks them to apply what they have learnt (7.1, 7.3).</p> <p>Pupil shares their example. Excellent class discussion about quality of flowchart (but give chance for pupil to correct based on feedback from others). Pupils look at Scratch examples then create flow charts. Code used to inform flow charts. Misconceptions addresses as you circulate around but some pupils not using the correct shapes even though the logic is accurate. You may need to stress the difference throughout the lesson (3.1).</p> <p>Examples discussed as a group but you might have been better to focus on one game to focus on the correct order and symbols. Also try and call on pupils you haven't heard from as some have not contributed (5.3).</p> <p>Excellent activity for plenary consolidating learning. Perhaps pick up on common mistakes pupils have made and ensure they address them in this activity. Think about how you can survey understanding of the group and / or capture what they have done on the whiteboards, (6.2, 6.3).</p>
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PART B Lesson Summary and Targets:

(Not all questions may be appropriate in the earliest stages of training)

Lesson strengths: (three minimum)

Content of lessons has practical real-world applications.	3.1, 4.2
Working atmosphere within the lesson ensuring pupils are working to achieve required outcomes.	7.3, 7.4
Good planning for progression so that pupils skills and knowledge progress throughout the lesson.	4.1, 3.1, 1.2

Developmental targets arising out of this lesson: (one minimum, no more than three).

How can the participant promote better pupil learning and progress?

1:	Explore subject topics in more detail to more fully develop pupil understanding.	3.2, 2.2
2:	Find ways of engaging more pupils so that they contribute at all times to the lesson.	7.3, 5.2, 4.2
3:	Organise lesson activities to reduce waiting time and maximising learning.	4.1, 1.1

Subject specific target(s)

1:	Delve more deeply into subject topics to promote a deeper understanding.	1.2, 2.2, 3.2
2:	Revisit common misconceptions at a whole class level.	2.2, 2.5, 3.1

Teachers' Standard(s) and Standard Prompts observed or discussed:	Formative Feedback
1. Set high expectations which inspire, motivate and challenge pupils	Establishing
4. Plan and teach well-structured lessons	Establishing
7. Manage behaviour effectively to ensure a good and safe learning environment	Emerging

PART A: Formative comments from observations OR summary of training session/discussion:

A reasonable level of detail in your planning with clear objectives but you need to make sure all sections are completed. Your narrative indicates differentiation and assessment but the summary page does not make reference to this. Are there any action points from the previous lesson? What about a seating plan and a profile of the class? Who are the pupils who have particular needs? What are they and how do you know?

08:58 – Pupils greeted at door to create a positive, welcoming start to the lesson (1a). Starter handed out. Do all pupils make a quick enough start with this? What could you do if not considering you are at the door?

09:02 – Sharing of answers through targeted questioning to recap learning from last lesson (4a) but is this sufficient for their current level of understanding? Are you asking if they know or to give you an answer?

09:04 – Use of analogy to compare computer system to parts of the human body (4b). Do pupils understand why these links have been chosen and does it develop their subject knowledge? How do you know? How does it link to the rest of the lesson?

09:06 – Pupils log in to follow your demonstration (4a). Modelling helps them to understand what to do. Could they have logged on sooner?

09:08 – You wait for silence with hand up. Pupils comply eventually (7a, 1c). How could you force this to happen sooner? They follow instructions that you model. Use of timer to set expectation for completing the work (4a).

09:14 – Pupils getting on with the activities (1a). Are they all focused? Are you happy with the level of engagement of the whole class? What do you consider to be an acceptable working atmosphere?

09:20 – Circulating well around the group to check progress and provide assistance where necessary (4a).

09:24 – Class stopped again to move on to the next part of the lesson (7b). Are you happy they are focused on you ready to take in everything you will go through? What happens if they aren't?

09:27 – You move them to the middle so that they focus and can complete a kinesthetic activity (4b, 7c). Again, is this routine sharp enough? Could they have moved before your last transition?

09:28 – Hands up again to focus attention. Has this been effective? Are you happy that all pupils are listening and not talking?

09:33 – Targeted questioning to explore how binary counting works. Pupils are thinking about the work and are able to recognise how the number system works (4e). How could you stretch this further and really deepen the pupils understanding of what they are learning? Good use of praise to recognise successes in learning (1c).

09:40 – Pupils becoming unfocused but you regain control well (7d). Are pupils aware of the links between what they are doing and how it relates to the subject? Would it help motivation and learning?

09:50 – Pupils work through binary conversion activity. Expectation set to work in silence (7d). Should this have happened sooner? You deal with those challenging your authority well, calmly and quietly enforcing your expectations so that they comply (7b).

09:55 – No real plenary to check progress and summarise the learning. Are you happy pupils have made sufficient progress? How do you know?



Part B: Lesson Summary and Targets:

Lesson strengths: (three minimum) <ul style="list-style-type: none"> Good relationship with pupils built on a mutual level of respect. The atmosphere for the lesson is respectful and focused on learning. Good structure to the lesson. Planning is clear and well thought-out. Pupils are expected to learn in a variety of ways. You are beginning to establish expected behaviours in lessons. Build upon this to establish yourself and take real ownership of the process. Use this chance to experiment and find techniques that work for you. 	Teachers' Standard(s) no(s) to be added: <p>1a,c</p> <p>4a,e</p> <p>7b,d</p>
Developmental targets arising out of the lesson: (one minimum, no more than three). <p>How can the trainee promote better pupil learning and progress?</p> <ul style="list-style-type: none"> Try to present more of a presence both in tone of voice and the language you use. Make sure you find ways to grab the attention of pupils quickly so that a good pace can be maintained throughout the lesson. Insist on clearly established behaviour expectations. Make sure pupils are clear about your expectations and develop strategies that ensure pupil behaviour is fully focused on making the best progress possible. <p>Subject specific target(s)</p> <ul style="list-style-type: none"> Look for ways to link subject content to application in the real world. Pupils should understand why what they are learning is important. This should also be reflected throughout all parts of the lesson. Also consider how to deepen the exploration of the content. Ask yourself how pupils can develop a deep appreciation of the content from multiple perspectives. 	Teachers' Standard(s) no(s) to be added: <p>7b, 2d, 1c</p> <p>1c, 7a,b,c</p> <p>3a, b, 4b</p>

Teachers' Standard(s) and Standard Prompts observed or discussed:	Formative Feedback
1. Set high expectations which inspire, motivate and challenge pupils	Embedding
4. Plan and teach well-structured lessons	Establishing
7. Manage behaviour effectively to ensure a good and safe learning environment	Establishing

PART A: Formative comments from observations OR summary of training session/discussion:

A good level of detail in your planning but think about the ways you can offer scaffolding to pupils who are unsure about what they are doing. Take care framing your objectives as they do not reflect the learning you have planned within the lesson itself. Use something like Bloom's taxonomy to help you categorise the level of learning taking place.

14:12 – Pupils greeted at the door to establish a positive start to the lesson (7a). Some come in late and you wait for them. How might it be helpful to not waste this part of the lesson?

14:14 – Good start with the group who are attentive and compliant (1a,c). Targetted questions used to recap the uses of HTML (4a). You push the line of questioning to make sure pupils are providing satisfactory answers. Do the questions allow pupils to explore the topic in sufficient depth? How could you encourage this?

14:15 – Late arrival that disrupts the flow of discussion. How could you deal with this pupil so that you address the concern without it detracting from the flow of the lesson?

14:18 – Pupils reluctant to answer but you persist (1c). One pupil gets away with saying they "don't know". Does this set a precedent?

14:20 – Clear instructions for the main task that links nicely into the content previously covered (4a). You also check pupils understand your instructions by asking a pupil to recap what you have said. Expectation shared that pupils should work in silence (7b). Do pupils follow this instruction to your satisfaction?

14:29 – You circulate around the room ensuring pupils are on task and provide support as needed. Pupils are making good progress and all are engaged in what they are doing (1b).

14:35 – Good use of praise to encourage the group (1c). You also ask pupils to RAG rate their understanding so far. Pupils reflect truthfully and you can clearly see how well pupils think they are doing. How could this information be useful going forward? What happens to those pupils who are less confident? What are their reasons for this?

14:39 – Peer assessment activity. Pupils start thinking about the quality of what they produce (4b). Time provided for pupils to reflect on the feedback and identify ways to improve. Good use of the whiteboard to capture some points made by the pupils (4b, 1b).

14:45 – Pupils improve the quality of their webpages. For some this doesn't seem to be more than adding a picture. You provide extension work but only after a period of time. Could some pupils have started this earlier? How many pupils are doing the extension work?

14:55 – You are circulating to provide teacher comments (1c).

15:03 – It feels as if the lesson is drifting at this point. Pupils are not making the same amount of progress. Why is this? How could you ensure this doesn't happen?

15:05 – Pupils packing away. You bring them back well using a countdown (7c,d). Recap of the learning today. Pupils again rate their progress. Is this most effective way of gauging the progress of the whole group and their level of understanding? How could you get a clearer overview of the learning?

15:10 – Homework given and pupils dismissed.

HAM CITY

Part B: Lesson Summary and Targets:

Lesson strengths: (three minimum) <ul style="list-style-type: none"> Respectful learning environment established where pupils are focused on their learning. Well thought-out lesson structure where learning builds on previous knowledge and allows pupils to progress their learning. Good behaviour management of the class. You use names well and challenge unacceptable behaviours to ensure that pupils are in the classroom to work and learn. 	Teachers' Standard(s) no(s) to be added: 1a,c 4a,b,e 7a,b,c
Developmental targets arising out of the lesson: (one minimum, no more than three). How can the trainee promote better pupil learning and progress? <ul style="list-style-type: none"> Provide opportunities to cement knowledge learnt in different ways. Can pupils explain clearly and accurately what they have done (perhaps as part of an exam question response). Think about integrating extension work into the main parts of the tasks. Pupils can view extension activities as optional so you need to find a way for stronger pupils to progress more quickly. Subject specific target(s) <ul style="list-style-type: none"> Don't be afraid to explore the topics being covered in more detail. Pupils should develop a deep knowledge where they feel secure in describing clearly what they know. For example, HTML renders differently in different browsers running on alternative operating systems. You could demonstrate this; or perhaps HTML pupils produce could be related to existing professional websites providing a context for the work pupils are producing. 	Teachers' Standard(s) no(s) to be added: 4b, 1b 4a 5a,b 1b,c 3a,b

Weekly mentor meetings

A weekly mentor meeting between the trainee teacher and the subject mentor should be timetabled, so that progress and achievement can be evaluated systematically and future targets set. To prepare for this meeting and to ensure that time is used productively, trainee teachers should complete the first part of the Weekly Review sheet (found in the SEPJ) in advance. This will then be discussed with the mentor and future targets agreed.

Weekly review meetings provide the opportunity to:

- Regularly work in partnership with their subject mentor
- Review progress made over the previous week
- Agree developmental targets to support progress over the forthcoming week
- Specifically discuss developments in subject knowledge and any emerging needs related to subject pedagogy
- Provide the opportunity for the trainee to discuss and make further progress towards the Teachers' Standards which have a subject specific dimension
- Identify any individual training needs and take actions to ensuring that needs are met
- Support the trainee to work collaboratively with other colleagues and professionals in school to support trainee professional development
- Monitor the SEPJ tasks

References and Additional Information

BCU (2017) Secondary Partnership Website. Available at: <http://www.bcu.ac.uk/education/partnerships-and-collaborations/secondary-partnerships>

Holden, G (2016) *National Standards for school-based initial teacher training (ITT) mentors*. Crown copyright 2016. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536891/Mentor_standards_report_Final.pdf

Subject Specific References:

Please note that this is not a required list of reading, rather it is identified key texts that will broaden knowledge about the subject.

Burdett, A., Bowen, D., Butler, D., Cumming, A., Hurvid, F., Jackson, A., Jaworski, J., Mett, P., Ng, T., Patterson, P., Burkhardt, D., Scheer, M., Shaw, H., Southall, J., Woollard, J., Hunter, A., Keller, L., Rogers, G. & Reeve, T. (2013). *BCS Glossary of Computing and ICT*. BCS Learning & Development Limited.

Cox, M. & Webb, M. (2007). *Information and communication technology inside the black box: Assessment for learning in the ICT classroom*. Granada Learning.

Edwards, A. D., Connell, A., Hramiak, A., Stanley, N. & Rhodes, G. (2014). *A Practical Guide to Teaching Computing and ICT in the Secondary School*. Taylor & Francis.

Hawkins, C. & Simmons, C. (2015). *Teaching Computing (Developing as a Reflective Secondary Teacher)*. SAGE Publications Ltd.

Kennewell, S., Parkinson, J. & Tanner, H. (2003). *Learning to Teach ICT in the Secondary School: A Companion to School Experience*. Routledge Falmer.

Saeli, M., Perrenet, J., Jochems, W. M. & Zwaneveld, B. (2011). Teaching programming in secondary school: a pedagogical content knowledge perspective. *Informatics in Education-An International Journal*. (Vol 10_1), pp.73-88.

Williams, L. (ed.) (2014). *Introducing Computing: A guide for teachers*. Routledge.
International Journal of Computer Science Education in Schools. <http://www.ijcses.org/index.php/ijcses>

Communications of the ACM. <http://dl.acm.org/citation.cfm?id=J79>.

British Journal of Educational Technology. <http://onlinelibrary.wiley.com/journal/10.1080/00070227.2016.114678535>.