

# Computer Science Subject Handbook

2016-2017

**UWE**  
**Bristol** | University  
of the  
West of  
England

# Programme Calendar

Dates marked in red with a 'U' denote days spent training at UWE Bristol. Dates in red marked with an 'I' denote days spent working independently on academic work, set by UWE tutors.

Holiday dates are marked in grey ('H'), with bank holidays denoted by 'BH'.

Days of teaching practice in placement schools are denoted by 'A', 'B' or 'C' respectively, according to the point in the year (autumn, spring or summer). The majority of trainees will follow an A-B-B placement pattern, spending time in their first school during block A (shown in blue), followed by a substantive placement during blocks B and C (shown in purple and green, respectively).

Key		
H	School Holiday	24
BH	Bank Holiday	8
U	UWE Training	44
R	Registration and Enrolment	1
I	UWE Independent Study	7
A	Autumn Block	42
B	Spring Block	22
A/B	Summer Block	61

	September				October				November				December				January				February			March			April			May			June											
Week Beginning	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	
Monday	R	U	U	U	U	U	U	U	A	A	A	A	A	A	U	H	BH	BH	U	U	U	U	U	U	A/B	A/B	A/B	A/B	A/B	U	H	BH	A/B	BH	A/B	A/B	A/B	A/B	BH	A/B	A/B	U		
Tuesday	U	U	U	U	U	U	U	U	A	A	A	A	A	A	U	H	BH	U	B	B	B	B	B	U	U	A/B	A/B	A/B	A/B	A/B	U	H	H	A/B	A/B	A/B	A/B	A/B	A/B	H	A/B	A/B	U	
Wednesday	U	U	U	A	A	A	A	U	A	A	A	A	A	A	U	H	H	U	B	B	B	B	B	U	U	A/B	A/B	A/B	A/B	A/B	U	H	H	A/B	A/B	A/B	A/B	A/B	A/B	H	A/B	A/B	U	
Thursday	U	U	U	A	A	A	A	H	A	A	A	A	A	A	I	H	H	B	B	B	B	B	B	H	A/B	A/B	A/B	A/B	A/B	A/B	I	H	H	A/B	A/B	A/B	A/B	A/B	H	A/B	A/B			
Friday	I	I	I	A	A	A	A	H	A	A	A	A	A	A	I	H	H	B	B	B	B	B	B	H	A/B	A/B	A/B	A/B	A/B	A/B	I	BH	H	A/B	A/B	A/B	A/B	A/B	H	A/B	A/B			
	Block A - 42 days												Block B - 22 days											Block C - 60 days																				

# Contents

Programme Calendar	page 2
Key Dates	page 4
Acronyms	page 5
Recommended Reading	page 6
Centre-Based Study	page 16
Subject Focus (Placement-Based)	page 34

## Key Dates

Review Point 1	Tutorial	Week beginning <b>03 October 2016</b>
Review Point 2	Lesson Observation Visit	Week beginning <b>14 November 2016</b>
Review Point 3	Placement Report	Week beginning <b>05 December 2016</b>
Review Point 4	Tutorial	Week beginning <b>02 January 2017</b>
Review Point 5	Lesson Observation Visit	Week beginning <b>16 January 2017</b>
Review Point 6	Placement Report	Week beginning <b>06 February 2017</b>
Review Point 7	Lesson Observation Visit	Week beginning <b>13 March 2017</b>
Review Point 8	Placement Report	Week beginning <b>27 March 2017</b>
Review Point 9	Lesson Observation Visit	Week beginning <b>08 May 2017</b>
Review Point 10	Placement Report	Week beginning <b>12 June 2017</b>

# Acronyms

Programmes		Subject Specialisms	
CPD	Continuing Professional Development	A&D	Art and Design
Core	Trainees recruited by UWE	CS	Computer Science
ITE	Initial Teacher Education	D&T	Design and Technology
PGCE	Postgraduate Certificate in Education	ML	Modern Languages
QTS	Qualified Teacher Status	PE	Physical Education
SD	School Direct – trainees recruited by schools	People	
SDS	SD Salaried – trainees employed by schools	AHoD	Associate Head of Department
Modules		GT	Group Tutor (Subject Leader)
CBE	Classroom-Based Enquiry	PT	Personal Tutor
PD	Professional Development	PDT	Professional Development Tutor
PP	Professional Practice (Placements)	SPT	Senior Professional Tutor (in school)
SKfT	Subject Knowledge for Teaching	SM	Subject Mentor (in school)
Awarding Body (QTS)		Awarding Body (PGCE)	
NCTL	National College of Teaching and Leadership	UWE	University of the West of England

## Recommended Reading

### Professional Development core text

Capel, S., Leask, M. and Younie, S. (2016) *Learning to teach in the Secondary School*. 7th ed. London: Routledge Falmer.

### Professional Development

Ball, S.J. (2004) *The RoutledgeFalmer Reader in Sociology of Education*. London: RoutledgeFalmer.

Ball, S.J. (2008) *The Education debate*. Bristol: The Policy Press.

Bryan, H., Carpenter, C. and Houlst, S. (2010). *Learning and Teaching at M-Level: A Guide for Student Teachers*. London: Sage.

Brookes, V., Abbott, I. and Huddleston, P. (2012). *A Students Teacher's Guide to Professional Issues in Secondary Education*. Berkshire: OUP.

Capel, S., Leask, M. and Turner, T. (2010) *Readings for Learning to Teach in the Secondary School: A Companion to M Level Study*. Abingdon: Routledge.

Dymoke, S. (2013) *Reflective teaching and learning in the secondary school*. London: SAGE.

Hattie, J. (2009) *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. Abingdon: Routledge.

Hattie, J. (2012) *Visible Learning for Teachers: Maximizing Impact on Learning*. Abingdon: Routledge.

Hayes, D. (2004) *The RoutledgeFalmer guide to key debates in education*. London: Routledge Falmer.

Hayes, D. (2010) *The Guided Reader to Teaching and Learning*. Abingdon: Routledge.

Kyriacou, C. (2007) *Essential Teaching Skills* 3rd ed. London: Nelson Thornes, Publishing.

Kyriacou, C. (2009) *Effective Teaching in Schools* 3rd ed. Cheltenham: Nelson Thornes Publishing.

O'Leary, M. (2014) *Classroom Observation: A guide to the effective observation of teaching and learning*. Abingdon: Routledge.

Pollard, A. (2008). *Reflective Teaching*. London: Continuum.

## Subject-Specific

Bond, K., Langfield S. (2008) AQA Computing for AS. Nelson Thornes.

Bond, K., Langfield S. (2009) AQA Computing for A2. Nelson Thornes.

Kemp, P (2015) Wikibooks - AQA A-level Computing

Dewdney, A.K (2004): The Turing Machine Omnibus

Graham, R, Knuth, D & Patashnik, O (1994) Concrete mathematics - a foundation for computer science. Addison Wesley

Harel, D (2003): Computers - what they really can't do

Harel, D (2004): Algorithmics: The Spirit of Computing

Kölling, M (2015) Introduction to Programming with Greenfoot. Pearson.

Kubica, Jeremy (2012) Computational Fairy Tales. CreateSpace

Leadbetter, C., Belanyek, A. and Rouse, G. (2008) OCR Computing for A Level. Hodder Education.

O'Byrne, S. and Rouse, G. (2012) OCR Computing for GCSE. Hodder.

Petzold, C (2000) Code: the hidden language of computer hardware and software. Microsoft Press.

Petzold, C (2008) The annotated Turing: a guided tour through Alan Turing's historic paper on computability and the Turing Machine. John Wiley and Sons.

## Suggested reading for first assignment (PD)

Black, P. and Wiliam, D. (1998) *Inside the black box; raising standards through classroom assessment*. King's College, London.

Abell K.(2008) Twenty years later; does pedagogical content knowledge remain a useful idea?  
International Journal of Science Education Vol. 30 No. 10 13 pp1405-1416

Berry A. Loughran J. Driel J. (2008) Revisiting Roots of Pedagogical Content Knowledge.  
International Journal of Science Education Vol. 30, No. 10 13 pp1271-1279

Bullough R. (2001) Pedagogical content knowledge circa 1907 and 1987: a study in the history of the idea. Teaching and Teacher Education Vol. 17.no6.p 655-666.

Cochran K.F., De Ruiter J.A., King R.A. (1993) Pedagogical Content Knowing: An Integrative Model for Teacher Preparation. Journal of Teacher Education Vol. 44 No 4 p263-272.

Computing At School/Naace (2014) Computing in the national curriculum: A guide for second Cremin, T et al (2012) Literature review of creativity in education. Creative little scientists.

EPPI (2004) What pedagogical practices do teacher educators use in Higher Education based elements of their courses? Protocol for the Learning Theories Review Group. Social Sciences Research Unit, Institute of Education, University of London.

EPPI (2006) Individual Teacher Training: A systematic map into approaches to making initial teacher training flexible and responsive to the needs of trainee teachers. Social Sciences Research Unit, Institute of Education, University of London. 21

Feiman-Nemser S. (2001). From Preparation to Practice: Designing a Continuum to Strengthen and Sustain Teaching. *Teachers College Record*, 103(6), 1013–1055.

Grossman P.L.(1990) *The Making of a Teacher: Teacher Knowledge and Teacher Education*. New York. Teachers College Press.

Hattie, J. (2009) *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London ; New York: Routledge.

Hirst P. and Peters R. (1970) *The Logic of Education*. Routledge, London.

Hunt, A. (2008) *Pragmatic thinking and learning: Refactor your "wetware"*. Raleigh, NC: Pragmatic.

Korthagen F., & Vasalos, A. (2005) Levels in Reflection: Core Reflection as a Mean to Enhance Professional Growth. *Teachers and Teaching*, 11(1), 47–71.

Korthagen, F.A.J., & Kessels, J.P.A.M. (1999) Linking Theory and Practice: Changing the Pedagogy of Teacher Education. *Educational Researcher*, 28 (4), 4–17.

Lawson T, Harrison J. Cavendish S. (1999) Individual action planning in Initial Teacher Training: empowerment or discipline. *British Journal of Sociology of Education* 20; 89 -105.

Leinhardt. G. (1988) Situated Knowledge and Expertise in Teaching. In J. Calderhead (Ed.), *Teachers' Professional Learning* (pp. 146- 169). London: Falmer Press.

Loughran, J. (2003) Knowledge Construction and Learning to Teach. Keynote address for the International Association of Teachers and Teaching Conference. Leiden University, June 26–30, 2003.

Shulman L.S. (1986) Those who understand: Knowledge Growth, Teaching Educational Researcher 15 (2), 4-14.

Woollard, J. (2010) Psychology for the classroom : Constructivism and social learning. London ; New York: Routledge.

## Subject Knowledge for Teaching (SKfT) Assignment

Bell, T., Witten, I. and Fellows, M. (2010) Computer Science Unplugged,

Bennedsen, J., Caspeersen, M. and Kölling, M. (2008). Reflections on the teaching of programming. Springer.

Gal-Ezer, J., & Harel, D. (1998). What (else) should CS educators know?. Communications of the ACM, 41(9), 77-84.

Graham, C. R. (2011). Theoretical considerations for understanding technological pedagogical content knowledge (TPACK). Computers & Education, 57(3), 1953-1960.

Hazzan, O., Gal-Ezer, J., & Blum, L. (2008). A model for high school computer science education: The four key elements that make it!. ACM SIGCSE Bulletin, 40(1), 281-285.

Hazzan, O., Lapidot, T. and Ragonis, N. (2011) Guide to teaching computer science: an activity based approach. Springer.

Jonassen, D., Howland, J., Marra, R., & Crismond, D. (2008) Meaningful learning with technology. Upper Saddle River, N.J: Pearson/Merrill Prentice Hall.

Kadijevich, D.M., Angeli, C., and Schulte, C. (2013) Improving Computer Science Education

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. Contemporary Issues in Technology and Teacher Education, 9(1), 60-70.

Ofsted (2011). ICT 2008-11. London: Ofsted.

Papert, S. (1980) *Mindstorms: Children, computers, and powerful ideas*. New York NY: Basic Books.  
Royal Society, the. (2012) *Shut down or restart*. London: The Royal Society.

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), 73-88.

Teaching Agency (2012) *Subject knowledge requirements for entry into computer science teacher training*. London: DfE.

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

## Classroom-Based Enquiry (CBE) Assignment

Black, Paul & Wiliam, Dylan (2003): 'In praise of educational research': formative assessment, *British Educational Research Journal*, 29:5, 623-637  
<http://dx.doi.org/10.1080/0141192032000133721>

British Educational Research Association (BERA) (2014) *Research and the Teaching Profession: Building the capacity for a self-improving education system*. London: BERA.

Buckingham, D. (2007) *Beyond technology: Children's learning in the age of digital culture*. Polity Press

Computing At School/Naace (2014) *Computing in the national curriculum: A guide for secondary teachers* Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*. 7th ed. London and New York: Routledge.

Freeman, D. (2010) *Engaging with theory*. In Brooks, C. ed. (2010) *Studying PGCE at M level: Reflection, research and writing for professional development*. Abingdon: Routledge. pp.139-151.

Koshy, V. (2005) *Action research for improving practice: a practical guide* London: PCP.

Leat, D., Lofthouse, R. and Reid, A. (2014) *Research and Teacher Education: The BERA-RSA Inquiry. Teachers' views: perspectives on research engagement.* London: BERA/RSA.

McNiff, J. (2013) *Action Research: Principles and Practice.* 3rd ed. Abingdon: Routledge.

Schäfer, N. (2012) Finding ways to do research on, with and for children and young people.

Shenton, A. (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* 22, pp. 63-75. Amsterdam: IOS Press.

Selwyn, N. (2010) *Schools and schooling in the digital age.* London: Routledge.

Selwyn, N. (2011) *Education and technology : Key issues and debates.* London; New York: Continuum International Pub. Group.

Selwyn, N. (2013) *Distrusting Educational Technology : Critical Questions for Changing Times.* London; Routledge.

Somekh, B. (2007) *Pedagogy and learning with ICT: Researching the art of innovation.* London ; New York: Routledge.

Wilson, E. (2013) *School-based Research: a guide for education students.* London: SAGE

Winch, C., Oancea, A. and Orchard, J. (2013) *The Contribution of Educational Research to Teachers ' Professional Learning - Philosophical Understandings.* London: BERA/RSA.

# Useful Websites

There are many relevant Web-sites that will be explored during the course. The following list includes a few key sites.

## Teaching General

Health and Safety

<https://www.gov.uk/government/publications/health-and-safety-advice-for-schools>

Ofsted - school and academy reports and data dashboards.

[www.ofsted.org.uk](http://www.ofsted.org.uk)

Estyn – for reports on schools in Wales

[www.estyn.gov.uk/](http://www.estyn.gov.uk/)

National College for Teaching and Leadership

<http://www.nationalcollege.org.uk/>

Access to Teachers' TV

<http://www.teachersmedia.co.uk/search?f=1021>

Office of Qualifications and Examinations Regulations - Ofqual

<http://ofqual.gov.uk/>

National Curriculum in England

<https://www.gov.uk/government/collections/national-curriculum>

National Curriculum in Wales

<http://wales.gov.uk/topics/educationandskills/schoolshome/curriculuminwales/arevisedcurriculumforwales/nationalcurriculum/?lang=en>

## Subject Associations

Barefoot Computing <http://barefootcas.org.uk>

BCS (British Computer Society) <http://www.bcs.org.uk/>

Computing at School <http://www.computingschool.org.uk/>

Computer Science Teachers Association of America <http://csta.acm.org/index.html>

NAACE (Advancing Education through ICT) <http://www.naace.co.uk/> (mostly focused on ICT across the curriculum)

QuickStart Computing CAS 2015 <http://www.quickstartcomputing.org/>

Government sites and related sources

DFES: National Curriculum <http://www.education.gov.uk/schools/teachingandlearning/curriculum>

London Grid for Learning - <http://www.lgfl.net/>

## Exam boards (downloadable syllabuses):

Edexcel homepage - <http://www.edexcel.org.uk>

OCR homepage – <http://www.ocr.org.uk/>

AQA homepage - <http://www.aqa.org.uk/>

WJEC homepage- [www.wjec.co.uk](http://www.wjec.co.uk)

## Teaching resources are available on the Web.

<http://www.computingatschool.org.uk/>

<http://www.cs4fn.org/teachers/>

<http://www.softronix.com/logo.html>

<https://www.plickers.com> Plickers reads QR codes for class assessment

<http://www.teach-nology.com/>

<http://www.teachict.co.uk/>

[http://www.icteachers.co.uk/resources/ict\\_resources.htm](http://www.icteachers.co.uk/resources/ict_resources.htm)

<http://www.tes.co.uk/resourcesHome.aspx?navcode=70>

<http://www.nextgenskills.com/resources/>

<http://www.arduino.cc/playground/>

# Centre-Based Study

## Autumn

<b>Subject sessions</b> <b>Week beginning 5 September</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: Welcome Session- What does it mean to be a teacher?</b>	<ul style="list-style-type: none"> <li>• Join the CAS</li> <li>• Access/purchase core texts/readers.</li> </ul>	<b>TS3</b> Demonstrate good subject and curriculum knowledge
<b>Big Picture.</b> What does the PGCE Course look like? <ul style="list-style-type: none"> <li>• Welcome and big picture UWE weeks, school placements, assignments, Pebble pad, Professional Development.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete pen portrait</li> <li>• Become familiar with main library (Bolland Library) and resource base in S block.</li> <li>• Know purpose of the Professional Development Portfolio and Trainee Assessment Toolkit.</li> <li>• Access Blackboard for Professional Development resources and readings.</li> </ul>	<b>TS8</b> Fulfil wider professional responsibilities.
<b>Curriculum.</b> How is the computer science curriculum constructed <ul style="list-style-type: none"> <li>• What is computer science.</li> <li>• Knowledge, understanding, skills, values and attitudes.</li> <li>• What it means to be a computer science teacher.</li> </ul>	<b>Useful reading:</b> <ul style="list-style-type: none"> <li>• CAS working group, Computer Science: a curriculum for schools <a href="http://www.computingschool.org.uk">http://www.computingschool.org.uk</a> endorsed by BCS, Microsoft, Google and Intellect March 2012</li> <li>• CAS working group, Computing at School; the state of the nation UK Computing Research committee v7 January 2010 available from the</li> </ul>	<b>TS3</b> Demonstrate good subject and curriculum knowledge <i>- demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship</i>

<ul style="list-style-type: none"> <li>Professional Development: Learning Theories</li> <li>Teaching and Learning:</li> <li>What are the theories of learning, child development and learning styles that underpin my CS teaching and how can I apply them in my teaching?</li> </ul>	<p>website</p> <ul style="list-style-type: none"> <li><a href="https://www.theguardian.com/teacher-network/2012/sep/13/computer-science-gcse-teachers-schools?newsfeed=true">https://www.theguardian.com/teacher-network/2012/sep/13/computer-science-gcse-teachers-schools?newsfeed=true</a></li> <li>Access Blackboard for Professional Development (PD) Directed Study tasks (What it means to be a teacher and Learning theory).</li> </ul>	
<ul style="list-style-type: none"> <li>What do students in school need to know? Focusing on Key Stage 3 (KS3), trainees will work together with Expert to establish what students need to know, in line with the subject content specified in the Computing programmes of study: key stages 3 and 4 (DfE, 2013).</li> </ul>	<p>DfE (2013). Computing programmes of study: key stages 3 and 4. London: Department for Education.</p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge  <i>- have a secure knowledge of the relevant subject(s) and curriculum areas</i></p>
<p><b>Subject knowledge focus.</b>  How can I improve my subject knowledge?  What do pupils need to know?  What else do I need to know?  Plan and deliver a micro-teach</p>	<ul style="list-style-type: none"> <li>Know how to use the subject knowledge profile.</li> <li>Plan for improving subject knowledge</li> <li>Teaching Agency (2012) Subject knowledge requirements for entry into computer science teacher training. London: DfE..</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>

<p align="center"><b>Subject sessions</b> <b>Week beginning 12 September</b></p>	<p align="center"><b>Directed Study</b></p>	<p align="center"><b>Teachers' Standards</b></p>
<p><b>Professional Development: Safeguarding</b></p>		
<p><b>Teaching and Learning.</b> How can I plan for effective learning and progression in lessons?</p> <ul style="list-style-type: none"> <li>• Planning for effective learning. What are schemes of learning, medium term and short term planning?</li> <li>• What is the enquiry approach?</li> <li>• What makes an effective lesson plan?<i>(What do I want learners to learn?; How will they learn?; How will I know what they have learned and what progress has been made ?; How will this inform my next lesson plan for this class?).</i></li> </ul>	<p>Access Blackboard for Professional Development (PD) materials, readings and Directed Study tasks (Safeguarding).</p> <p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Black, Paul &amp; Wiliam, Dylan (1998) Inside the Black Box: Raising Standards Through Classroom Assessment</li> <li>• Black, P. Harrison, C. Lee, C. Marshall, B. and Wiliam, D (2003), Assessment for Learning – Putting it into practice</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p> <ul style="list-style-type: none"> <li>- <i>promote a love of learning and children's intellectual curiosity</i></li> <li>- <i>contribute to the design and provision of an engaging curriculum within the relevant subject area(s)</i></li> </ul>
<p><b>Assessment for Learning.</b></p> <ul style="list-style-type: none"> <li>• Starting to teach; starters; sharing the big picture, learning objectives, learning outcomes, success criteria.</li> <li>• How can I plan for effective learning in lessons?</li> <li>• How to observe reflectively: reflection on</li> </ul>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Black, P. Harrison, C. Lee, C. Marshall, B. and Wiliam, D (2003), Assessment for Learning – Putting it into practice</li> <li>• Graham, C. R. (2011). Theoretical considerations for understanding technological pedagogical content knowledge (TPACK). Computers &amp;</li> </ul>	<p><b>TS6</b> Make accurate and productive use of assessment</p> <ul style="list-style-type: none"> <li>- <i>make use of formative and summative assessment to secure pupils' progress</i></li> </ul>

<p>own practice; areas of strength/for improvement</p> <p><b>Teaching and learning: Micro-teach.</b> What ingredients are necessary for an engaging and challenging computer science lesson?</p> <ul style="list-style-type: none"> <li>• Plan for 55 minute lesson</li> <li>• Resource for 55 minute lesson</li> <li>• Teach 15 minutes of lesson</li> <li>• Observation of peers</li> <li>• Peer and Self-evaluation.</li> <li>•</li> </ul>	<p>Education, 57(3), 1953-1960.</p> <ul style="list-style-type: none"> <li>• Gal-Ezer, J., &amp; Harel, D. (1998). What (else) should CS educators know?. Communications of the ACM, 41(9), 77-84. Royal Society, the.</li> </ul>	
<p><b>Subject Knowledge</b></p> <p>Reflecting on microtech activity-what feedback have we for other?</p> <p>Developing analytical and Computational thinking skills-how do we provide routes in?</p> <p>BBC microbits</p>	<ul style="list-style-type: none"> <li>• Video group teaching</li> <li>• Evaluation of learning &amp; teaching</li> <li>• Evaluate your first part of lesson – formal written evaluation.</li> <li>• Peer evaluation – what can I learn from this</li> </ul> <ul style="list-style-type: none"> <li>• BBC microbits and microbitsandbobs</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons - ...<i>plan other out-of-class activities to consolidate and extend the knowledge and understanding pupils have acquired.</i></p> <p><b>TS8</b> Fulfil wider professional responsibilities.</p>

<b>Subject sessions</b> <b>Week beginning 19 September</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: Curriculum and Lesson Planning</b>	<b>Professional Development: Curriculum and Lesson Planning</b>	<b>Professional Development: Curriculum and Lesson Planning</b>
<b>Curriculum.</b> <ul style="list-style-type: none"> <li>• KS3 – how do schools interpret the National Curriculum to construct curriculum plans and schemes of work?</li> <li>• GCSE – how are GCSE and A level specifications designed and how are these are assessed in school?</li> </ul>	Access Blackboard for PD materials, readings and Directed Study tasks (Curriculum/lesson planning).  <a href="http://community.computingatschool.org.uk/files/5094/original.pdf">http://community.computingatschool.org.uk/files/5094/original.pdf</a>	<b>TS6</b> Make accurate and productive use of assessment <i>- know and understand how to assess the relevant subject and curriculum areas, including statutory assessment requirements</i>
<b>Assessment for Learning.</b> How can I use Assessment <i>for</i> Learning in planning my computer science lessons? <ul style="list-style-type: none"> <li>• Making clear links between learning objectives, teaching approaches and assessment strategies.</li> <li>• Questioning skills</li> <li>• Lesson evaluations – evaluation of teaching and pupils' learning.</li> </ul>	<b>Useful reading:</b> Weeden, P. and Lambert, D. (2006) inside the black box: Assessment for learning in the classroom.	<b>TS6</b> Make accurate and productive use of assessment <i>- make use of formative and summative assessment to secure pupils' progress</i>

<p><b>Teaching and learning:</b></p> <p><b>BSCS-Lesson planning and curriculum</b></p>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• (2012) Shut down or restart. London: The Royal Society.</li> <li>• Hazzan, O., Gal-Ezer, J., &amp; Blum, L. (2008). A model for high school computer science education: The four key elements that make it!. ACM SIGCSE Bulletin, 40(1), 281-285.</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons  <i>- impart knowledge and develop understanding through effective use of lesson time</i>  <i>- reflect systematically on the effectiveness of lessons and approaches to teaching</i></p>
<p><b>Subject Knowledge-</b>  Digital Literacy – Being Able to Express Self and Ideas Through Information and Communication Technology</p> <p>What rights and responsibilities do students have in the 'digital age'? What do students need to know about information safety and security? Exploring the links between computing, self and society.</p>	<ul style="list-style-type: none"> <li>• Hazzan, O., Lapidot, T. and Ragonis, N. (2011) Guide to teaching computer science: an activitybased approach. Springer.</li> <li>• Kadijevich, D.M., Angeli, C., and Schulte, C. (2013) Improving Computer Science Education</li> <li>• Koehler, M., &amp; Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. Contemporary Issues in Technology and Teacher Education, 9(1), 60-70.</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons  <i>- impart knowledge and develop understanding through effective use of lesson time</i>  <i>- reflect systematically on the effectiveness of lessons and approaches to teaching</i></p>
<p><b>Reflections on progress against Teachers' Standards.</b></p> <ul style="list-style-type: none"> <li>• What progress have I made during the first few weeks?</li> </ul>	<p>Complete reflective task through pebble pad.</p>	<p><b>TS8</b> Fulfil wider professional responsibilities.</p>
<p><b>Independent study</b>  23:09:16</p>	<p>Continue to read literature and plan for first assignment.</p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>

<b>Subject sessions</b> <b>Week beginning 26 September</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: Writing for academic assignments</b>	<b>Professional Development: Writing for academic assignments</b>	<b>Professional Development: Writing for academic assignments</b>
<p><b>PD Assignment focus.</b> What are the PD criteria for success?</p> <ul style="list-style-type: none"> <li>• Introduction to assignment.</li> <li>• Revisiting academic writing skills and correct use of UWE Harvard referencing.</li> <li>• How can I write at Masters' level?</li> </ul>	<p>Access Blackboard for PD materials, readings and Directed Study tasks (Writing for assignments and Assessment for learning and Feedback).</p> <ul style="list-style-type: none"> <li>• Read guidance on the assignment - <i>critical reflection on a learning activity undertaken with pupils.</i></li> <li>• Read guidance on UWE Harvard referencing and practise use of referencing.</li> <li>• Learning and Teaching at M-Level: A Guide for Student Teachers</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge  - ...<i>promote the value of scholarship</i></p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>
<p><b>Assessment for Learning.</b> How can I use Assessment <i>for</i> Learning in planning my computer science lessons?</p> <ul style="list-style-type: none"> <li>• Questioning skills</li> <li>• Transitions</li> </ul>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Webb, M. &amp; Cox, M. (2007) Information and communication technology inside the black box: Assessment for learning in the ICT</li> </ul>	<p><b>TS6</b> Make accurate and productive use of assessment  - <i>make use of formative and summative assessment to secure pupils' progress</i></p>

<ul style="list-style-type: none"> <li>• Mini-plenaries/plenaries</li> <li>• Lesson evaluations – of teaching and pupils' learning.</li> </ul>	classroom. Granada Learning.	
<p><b>Medium term planning.</b> How can I plan for progression in pupils' learning?</p> <ul style="list-style-type: none"> <li>• Constructing medium term plans. Using concepts to plan enquiry sequences</li> </ul>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="http://barefootcas.org.uk/">http://barefootcas.org.uk/</a> Barefoot Computing</li> <li>• <a href="http://www.quickstartcomputing.org/">http://www.quickstartcomputing.org/</a> QuickStart Computing CAS 2015</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p>
<p><b>School placement:</b> What will the first 12 days in school placement A involve?</p> <ul style="list-style-type: none"> <li>• Expectations of trainee teachers: professional attributes</li> <li>• Expectations of Subject Mentor, Senior Mentor and UWE Tutor/s support</li> <li>• Use of the Assessment Toolkit.</li> <li>• Weekly Reflections</li> <li>• Lesson Observations</li> </ul>	<ul style="list-style-type: none"> <li>• Become familiar with expectations relating to safeguarding, appropriate dress code, jewellery, expectations relating to teacher-pupil professional relationships, attendance and punctuality, setting work when absent.</li> </ul> <p><b>Essential reading:</b></p> <ul style="list-style-type: none"> <li>• Placement A handbook pages for Subject Mentor sessions and Senior Mentor sessions.</li> <li>• Download relevant specifications for School A. Implications of Ofsted or Estyn Inspection.</li> </ul>	<p><b>PART TWO: PERSONAL AND PROFESSIONAL CONDUCT</b> <i>A teacher is expected to demonstrate consistently high standards of personal and professional conduct. The following statements define the behaviour and attitudes which set the required standard for conduct throughout a teacher's career.</i></p>
<p><b>Subject knowledge</b> BSCS –Teaching on line safety</p>	Practise new knowledge on Raspberry pi and Arduinio	
<p><b>Independent study</b> Key Stage 3 focus: 'getting into programming', e.g. Raspberry Pi 2. Engaging students in programming and relating it to the 'real world'.</p>	Discover Raspberry pi and Arduinio	

<b>Subject sessions</b> <b>Week Beginning 3rd October</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: Fundamental British Values/Prevent</b>		
<b>How can computer science contribute to the teaching of Fundamental British values?</b> How can I help promote the spiritual, moral, social and cultural (SMSC) development of pupils? How can computer science contribute to pupils' SMSC development?	Access Blackboard for PD materials, readings and Directed Study tasks (Fundamental British Values/ Differentiation).  <b>Useful reading:</b> DfE (2014) Promoting fundamental British values as part of SMSC in schools Departmental advice for maintained school.	<b>TS Part Two.</b>
<b>Diversity, Inclusion and Achievement.</b> How can I plan for inclusion in computer science? Using information to respond to pupils' individual needs. Responding to pupils' prior learning and interests Creating an environment to encourage all students to learn. Setting suitable learning challenges for all pupils (SEND, G&T) Supporting pupils' language development.	<b>Useful reading:</b> <ul style="list-style-type: none"> <li>• <a href="http://casinclud.org.uk/">http://casinclud.org.uk/</a></li> <li>• TDA (2009) SEN Secondary ITE Materials.</li> <li>• Davies, J. and Merchant, G. (2009) Web 2.0 for schools: Learning and social participation. New York: Peter Lang.</li> <li>• Facer, K. L. (2011) Education, technology, and social change. New York: Routledge.</li> </ul>	<b>TSS</b> Adapt teaching to respond to the strengths and needs of all pupils - have a clear understanding of the needs of all pupils, including those with special educational needs; those of high ability; those with English as an additional language; those with disabilities; and be able to use and evaluate distinctive teaching approaches to engage and support them.

<p>Understanding what differentiation looks like in practice.</p>		
<p><b>Teaching and learning at KS3.</b> How can I plan an engaging KS3 lesson to team-teach at a partnership school?          What aspects of planning a lesson for a specific class do I need to consider?</p> <ul style="list-style-type: none"> <li>• Class data on individual pupils.</li> <li>• School policy on behaviour, sanctions and rewards.</li> </ul> <p>School approach to planning and assessing pupil progress.</p>	<ul style="list-style-type: none"> <li>• Co-plan a lesson to team-teach in a local partnership school</li> <li>• Teach the lesson.</li> <li>• Evaluate the lesson.</li> <li>• Read observer’s feedback and reflect on how you would adapt the lesson.</li> <li>• See assignment brief and consider the teaching and learning issues raised through teaching this lesson as a focus of the assignment.</li> </ul> <p><b>Useful reading:</b>          Ofsted Computer science reports (2008, 2011).</p>	<p><b>TS4</b> Plan and teach well-structured lessons  <i>- impart knowledge and develop understanding through effective use of lesson time</i>  <i>- reflect systematically on the effectiveness of lessons and approaches to teaching</i></p>
<p><b>Subject Knowledge</b>          Computational Thinking and Creativity 1: Opportunities for Creativity          What opportunities are there for creativity in Computer Science? How can we design and deliver lessons in a creative way? How can we encourage creativity whilst developing rational, systemic approaches in computing?</p>	<ul style="list-style-type: none"> <li>• Continue independent work Raspberry Pi, Arudinio and BBC micro-bit</li> </ul>	
<p><b>BSCS-ICT to support positive behaviour</b></p>		

<p align="center"><b>Subject sessions</b> <b>Week beginning 10 October</b></p>	<p align="center"><b>Directed Study</b></p>	<p align="center"><b>Teachers' Standards</b></p>
<p><b>Professional Development: Literacy and Numeracy</b></p>		
<p><b>Teaching and Learning: Numeracy across the Curriculum.</b></p> <p>How can I embed opportunities for pupils to develop their numeracy skills in computer science?</p> <ul style="list-style-type: none"> <li>• Mathematics and numeracy</li> <li>• Develop numeracy across the curriculum /through computer science</li> <li>• Make links with other aspects of pupils' development</li> </ul>	<p>Access Blackboard for PD materials, readings and Directed Study tasks (Literacy and Numeracy).</p> <p><a href="https://teachinglondoncomputing.org/interdisciplinary-computational-thinking/computer-science-and-maths/">https://teachinglondoncomputing.org/interdisciplinary-computational-thinking/computer-science-and-maths/</a></p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>
<p><b>Teaching and Learning: Literacy across the curriculum.</b></p> <p>How can I embed opportunities for pupils to develop their literacy skills (speaking, listening, reading and writing) computer science?</p> <ul style="list-style-type: none"> <li>• Developing literacy through computer science.</li> <li>• Make links with other aspects of pupils'</li> </ul>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Roberts, M. (2004) Chapters 5, 6 and 7.</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><i>- demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject</i></p>

development.		
<p><b>PD Assignment focus.</b> What are the PD criteria for success?</p> <ul style="list-style-type: none"> <li>• How do I know if I am writing a critical reflection of the learning activity?</li> <li>• Revisiting academic writing skills and correct use of UWE Harvard referencing.</li> </ul>	<p><b>Useful reading:</b> .  <a href="http://labspace.open.ac.uk/mod/oucontent/view.php?id=477839">http://labspace.open.ac.uk/mod/oucontent/view.php?id=477839</a></p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge  - ...<i>promote the value of scholarship</i></p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>
<b>BSCS ICT to support differentiation</b>		<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>

<p align="center"><b>Subject sessions</b> <b>Week Beginning 17 October</b></p>	<p align="center"><b>Directed Study</b></p>	<p align="center"><b>Teachers' Standards</b></p>
<p><b>Professional Development: Behaviour 1</b> <i>How do I manage the behaviour for learning of students (including challenging behaviour) so that students can learn effectively?</i></p>	<p><b>Professional Development: Behaviour 1</b></p>	<p><b>TS7</b> Manage behaviour effectively to secure a good and safe learning environment</p>
<p><b>Teaching and Learning.</b> How do I manage the behaviour for learning of students, (including challenging behaviour) so that students can learn effectively?</p> <p>What are some of the different approaches to managing pupils' behaviour? e.g. Assertive Discipline, B4L, sanctions and rewards, school policies C1, C2, C3</p> <ul style="list-style-type: none"> <li>• Promoting positive pupils behaviour.</li> <li>• Motivating pupils.</li> <li>• Building highly respectful relations.</li> </ul>	<p>Access Blackboard for PD materials, readings and Directed Study tasks (Behaviour 1).</p> <ul style="list-style-type: none"> <li>• Access materials on the Behaviour 4 Learning (B4L) website available from <a href="http://webarchive.nationalarchives.gov.uk/20101021152907/http://www.behaviour4learning.ac.uk">http://webarchive.nationalarchives.gov.uk/20101021152907/http://www.behaviour4learning.ac.uk</a></li> <li>• <u>DfE (2016) Behaviour and discipline in schools Advice for head teachers and school staff DfE website – school behaviour advice and guidance</u></li> <li>• <u>Managing Difficult Behaviour in Schools A practical guide by Tom Bennett</u></li> </ul> <p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Rogers, B. (2011) Classroom Behaviour: A practical guide 3<sup>rd</sup> ed.</li> <li>• Kyriacou, C. (2007) <i>Essential Teaching Skills</i>.</li> </ul>	<p><b>TS7</b> Manage behaviour effectively to secure a good and safe learning environment</p>

<p><b>Teaching and Learning</b></p> <p>What have I learnt from observing computer science lessons?</p> <p>How do different teachers <i>present</i> computer science/digital literacy to their classes and with what purpose?</p> <p>What is my understanding of subject pedagogy?</p>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• O'Leary, M. (2014) Classroom Observation: A guide to the effective observation of teaching and learning. Abingdon: Routledge.</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons - <i>reflect systematically on the effectiveness of lessons and approaches to teaching</i></p>
<p><b>Professional Practice.</b></p> <p>How am I progressing against the Teachers' Standards?</p> <p>How do I evidence my progress through the use of my PDP (Pebble Pad)?</p>	<ul style="list-style-type: none"> <li>• Trainee Assessment Toolkit and Group activity with Pebble Pad.</li> </ul>	<p><b>TS1-TS8 and Part Two.</b></p>
<p><b>Subject Knowledge</b></p> <p>Developing Analytical and Computational Thinking Skills</p> <p>Teaching students to meet the requirements of KS4 exam specifications.</p>		

<b>Subject sessions</b> <b>Week Beginning 24 October</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: Children's Development; Rights, Values and Beliefs</b>		
<b>Children's development.</b> What is my role in understanding and promoting children's rights, positive values and beliefs?	Access Blackboard for PD materials, readings and Directed Study tasks: (Children's Development; Rights, Values and Beliefs).	<b>TS1-TS8 and Part Two.</b>
<b>Teaching and Learning.</b> How can I evaluate the success of my lessons and the impact on pupils' progress? <i>What did I want learners to learn?; How did they learn?; How do I know what they have learned and what progress has been made ?; How did this inform my next lesson plan for the class?.</i>	<b>Useful reading:</b> <ul style="list-style-type: none"> <li>• Guide to Teaching Computer Science: An Activity-Based Approach by Orit Hazzan, Tami Lapidot</li> </ul>	<b>TS4</b> Plan and teach well-structured lessons <i>- promote a love of learning and children's intellectual curiosity</i> <i>-reflect systematically on the effectiveness of lessons and approaches to teaching</i>
<b>Monitoring and progression.</b> How can I provide evidence of monitoring and recording pupils' progress? <ul style="list-style-type: none"> <li>• Progression within/between lessons.</li> <li>• Feedback (oral and written).</li> <li>• Sharing the assessment practices observed in school.</li> </ul>	<b>Useful reading:</b> <ul style="list-style-type: none"> <li>• Teaching Computing (Developing as a Reflective Secondary Teacher) Carl Simmons</li> </ul>	<b>TS2</b> Promote good progress and outcomes by pupils <i>- be accountable for attainment, progress and outcomes of the pupils</i> <i>- plan teaching to build on pupils' capabilities and prior knowledge</i>

<p><b>Medium term planning.</b> How can I plan for progression in pupils' learning?</p> <ul style="list-style-type: none"> <li>• Constructing medium term plans and Schemes of Learning (SoL).</li> </ul>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Teaching Computing (Developing as a Reflective Secondary Teacher) Carl Simmons</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p>
<p><b>SKfT Assignment focus:</b> How can I meet the assessment criteria for the Subject Knowledge for Teaching assignment (SKfT)?</p> <ul style="list-style-type: none"> <li>• Identify theme for SKfT.</li> <li>• Continue wider reading</li> </ul>	<p><b>Useful reading:</b> Brooks, C. ed. (2009) Studying PGCE Learning and Teaching at M-Level: A Guide for Student Teachers CAS Progression pathways and SOW</p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>
<p><b>Subject Knowledge</b> Computing and the use of Mobile Technologies</p>	<p>Bring your own mobile device and at least one lesson idea for how it could be used in a computing lesson.</p> <p>Reading: Scottish Mobile Personal Device Evaluation (2012) Daily Mail (8th December 2012) Wharfedale Observer (10th January 2014)</p>	
<p><b>Independent study</b> 27:10:16-28:10:16</p>	<p>Planning for return to Placement A See section Placement Based Subject Study</p>	<p><b>TS1-TS8 and Part Two.</b></p>

<b>Subject sessions</b> <b>Week Beginning 12 December</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<b>Professional Development: English as an Additional Language (EAL); Inclusion</b>		
<p><b>Diversity, Inclusion and Achievement.</b></p> <p>What have I learnt about planning for inclusion in computer science?</p> <ul style="list-style-type: none"> <li>• Using information to respond to pupils' individual needs.</li> <li>• Creating an environment to encourage all students to learn.</li> <li>• Setting suitable learning challenges for all pupils (EAL)</li> <li>• Supporting pupils' language development.</li> </ul>	<p>Access Blackboard for PD materials, readings and Directed Study tasks: (Inclusion, EAL).</p> <p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Share strategies from Placement A for teaching students with particular needs.</li> </ul>	<p><b>TS5</b> Adapt teaching to respond to the strengths and needs of all pupils</p>
<p><b>Placement evaluation.</b></p> <p>What have I learnt from my 'A' placement school experience?</p> <p>How will the next UWE block build on my progress to date?</p>	<ul style="list-style-type: none"> <li>• Submit 'A' placement teaching file and Professional Development Portfolio (PDP) with Assessment Tool Kit to tutor for review</li> <li>• Update ICT and Skills Audit</li> <li>• Review big picture of PGCE course.</li> <li>• Peer-review of subject knowledge</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>

<p><b>SKFT Assignment focus:</b> How can I meet the assessment criteria for the <i>SKFT</i> assignment?</p> <p>Continue wider reading and work on the SKfT assignment.</p>	<p><b>Useful reading:</b></p> <ul style="list-style-type: none"> <li>• Re-read feedback from <i>PD</i> assignment. Understand M level criteria including use of UWE Harvard referencing.</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><b>TS4</b> Plan and teach well-structured lessons</p>
<p>Subject Knowledge E safety</p>	<p><a href="https://prezi.com/hy2xoy547ugb/afl-and-wsi-self-study/">https://prezi.com/hy2xoy547ugb/afl-and-wsi-self-study/</a></p>	
<p><b>Medium term planning.</b> How can I show planning for progression in pupils' learning in a SoL?</p> <ul style="list-style-type: none"> <li>• Sharing medium term plans and work in progress SoL.</li> </ul>	<p><b>Useful reading:</b> <a href="http://www.computingatschool.org.uk/data/uploads/cas_secondary.pdf">http://www.computingatschool.org.uk/data/uploads/cas_secondary.pdf</a></p>	<p><b>TS4</b> Plan and teach well-structured lessons</p>
<p><b>Independent study</b> 15:12:16-16:12:16</p>	<p>Continue writing and working on the SKFT assignment.</p>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>

## Placement-Based Subject Study (Sept-Oct)

Subject Mentor session	Directed Study	Teachers' Standards
<p><b>Week beginning 26 September</b></p> <p>As part of this period of induction the Subject Mentor should cover:</p> <p><b>Organisation of the weekly mentor meeting</b></p> <p>The Subject Mentor should set expectations for the placement:</p> <ul style="list-style-type: none"> <li>• How the weekly mentor meeting will be organised e.g. regular timetable slot; room, proportion of time spent on different aspects relating to trainee's needs.</li> <li>• Formal use of the Weekly Log completed at the meetings.</li> <li>• Provide a timetable covering teaching and observation of a range of age groups.</li> <li>• Outline departmental expectations and direct trainees to school policies.</li> <li>• Discuss trainee use of a planner.</li> </ul>	<p>As part of the induction weeks at the placement the trainee will need to make sure they are preparing fully for beginning to teach lessons during the four week period (12 days). The trainee should:</p> <ul style="list-style-type: none"> <li>• Follow up discussion of the school's and department's expectations relating to dress code, punctuality, attendance,</li> <li>• Have teaching file, UWE handbook, Assessment Toolkit and Professional Development Portfolio available at meetings with the subject mentor.</li> <li>• Keep records of the weekly subject mentor meeting.</li> <li>• Act upon agreed action points.</li> <li>• Set up a planner/ mark book, if available from the school or purchase your own.</li> <li>• Observe lessons taught by colleagues in school.</li> <li>• Access safeguarding policy and know designated person in school with responsibility.</li> </ul>	<p><b>TS Part 2</b></p> <p><b>TS Part 2</b></p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>
<p><b>Department and Curriculum</b></p> <p>The Subject Mentor should:</p> <ul style="list-style-type: none"> <li>• Introduce the trainee to the department: its</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Sensitively gather information on staffing, facilities, resources including information on rooms, materials, equipment, ICT, library,</li> </ul>	<p><b>TS1</b> Set high standards which inspire motivate and challenge pupils.</p>

<p>policies, resources and curriculum (also structure in school)</p> <ul style="list-style-type: none"> <li>• Discuss the trainee’s subject knowledge Profile – what are their strengths and areas to develop?</li> <li>• Arrange to enable the trainee to have access to student data so that early planning of lessons takes into account individual pupil needs.</li> </ul>	<p>policies</p> <ul style="list-style-type: none"> <li>• Become familiar with school polices, approaches to structuring lessons, how pupil data is stored and utilised</li> <li>• Become familiar with how classes are organised. What data is available on pupils and what provision is made for pupils with particular needs?</li> <li>• Examine the relevant schemes of learning and specifications for GCSE and A’ Level</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge.</p>
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Subject Mentor session	Directed Study	Teachers' Standards
<p><b>Week beginning 3 October</b></p> <p><b>Observations of computer science and other subjects.</b></p> <p>The Subject Mentor should arrange for the trainee to observe a variety of lessons in computer science and other subjects.</p> <p>The Subject Mentor should.</p> <ul style="list-style-type: none"> <li>• Support the trainee in understanding how lessons are structured in the placement by reflecting on lessons which the trainee has</li> <li>• observed.</li> <li>• Discuss departmental or whole school policies which the trainee may have observed in lessons.</li> <li>• Identify lessons or part lessons in next two weeks the trainee can contribute to/lead.</li> </ul>	<p>As part of the induction weeks at the placement the trainee will need to make sure they are preparing fully for beginning to teach lessons during the four week period (12 days).</p> <p>The trainee should:</p> <ul style="list-style-type: none"> <li>• <b>Observations</b> - carry out observations of computer science lessons. Write up <u>two observations</u> using the <i>pro forma</i> in Subject Knowledge Profile. How CS was presented, what subject knowledge, why particular teaching approaches were used. This can inform discussion with you subject mentor.</li> <li>• Note the emphasis on clarity of links between Key Questions/ learning objectives, teaching approaches and assessment strategies used within lessons.</li> </ul>	<p><b>TS2</b> Promote good progress and outcomes by pupils</p> <p><b>TS7</b> Manage behaviour effectively to secure a good safe learning environment</p>

Subject Mentor session	Directed Study	Teachers' Standards
<p><b>Week beginning 10 October</b></p> <p><b>Planning and teaching of computer science.</b></p> <p>The Subject Mentor should support the trainee in lesson planning and monitor their teaching file as evidence of TS4:</p> <ul style="list-style-type: none"> <li>• Help set up a teaching file and support early lesson planning.</li> <li>• Discuss lesson plan structure e.g. trainee version versus whole school policy.</li> <li>• Emphasis on clarity of links between Key Questions/ learning objectives, teaching approaches, learning outcomes and assessment strategies.</li> <li>• Discuss trainee's time management between planning, writing lesson plans, creating resources and evaluations.</li> </ul>	<p>As part of the induction weeks at the placement the trainee will need to make sure they are preparing fully for beginning to teach lessons during the four week period (12 days).</p> <p>The trainee should:</p> <ul style="list-style-type: none"> <li>• <b>Teaching File</b> - start to organise a teaching file to include: schemes of work, lessons plans; pupil data and seating plans, resources registers of names etc. Keep as a working document. For each year/class taught: <ul style="list-style-type: none"> <li>- names/attendance/marks/IEP</li> <li>- lesson plans and evaluations</li> <li>- resources e.g. worksheets.</li> </ul> </li> <li>• <b>Begin to teach</b> - start to teach part lessons or small groups and build up to completing a whole lesson with a total combined of between 5-8 hours in this induction period.</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p> <p><b>TS7</b> Manage behaviour effectively to secure a good safe learning environment</p>

Subject Mentor session	Directed Study	Teachers' Standards
<p><b>Week beginning 17 October</b></p> <p><b>Planning, teaching and evaluating computer science lessons.</b></p> <p>The Subject Mentor should:</p> <ul style="list-style-type: none"> <li>Support the trainee in lesson planning, teaching and evaluation of lessons.</li> <li>Carry out at least one <b>formal observation</b> of the trainee teaching a lesson. Use of Assessment Toolkit.</li> <li>Discuss the lesson or part lesson with the trainee to help the trainee begin to identify what helps pupils to make progress in lessons. Use of Trainee Assessment Toolkit.</li> </ul> <p><b>First assignment.</b> If the trainee is selecting a lesson from placement the mentor can discuss aspects of the lesson e.g. use of questioning, start to the lesson, pupil activities, transitions, pupils' progress.</p> <p><b>Planning for the trainee's return to placement.</b></p> <p>The Subject Mentor should:</p> <ul style="list-style-type: none"> <li>Make sure the trainee has a timetable of <b>10 hours teaching</b> for the next</li> </ul>	<p>As part of the induction weeks at the placement the trainee will need to make sure they are preparing fully for beginning to teach lessons during the four week period (12 days).</p> <p>The trainee should:</p> <ul style="list-style-type: none"> <li><b>Teach computer science</b> as appropriate plan or adapt school resources for teaching one or more full lessons. Complete full lesson plans and be clear about the <i>why</i> (aims and purpose), <i>what</i> (subject content/concepts) and <i>how</i> (subject pedagogy) of the lesson.</li> <li><b>Lesson/s evaluation/s</b> Evaluate the lesson/s using an appropriate proforma What went well today? How was the pupils' learning assessed? What evidence was there that pupils were making progress? Add a smart target to next lesson plan.</li> <li><b>First assignment</b> If using a lesson from placement discuss the lesson with the observer or Subject Mentor. Collect evidence of pupils' work (see assignment brief).</li> </ul> <p><b>Planning for return to placement</b></p> <p>The trainee should:</p>	<p><b>TS1</b> Set high standards which inspire motivate and challenge pupils.</p> <p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><b>TS4</b> Plan and teach well-structured lessons <i>impart knowledge and develop understanding through effective use of lesson time</i></p> <p><b>TS4</b> <i>reflect systematically on the effectiveness of lessons and approaches to teaching</i></p> <p><b>TS Part 2</b></p> <p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>

<p>phase.</p> <ul style="list-style-type: none"> <li>• Provide a range of Key Stages and teachers to work with.</li> <li>• Check trainee assigned to a tutor group</li> <li>• Discuss with the trainee the medium term planning required for this next phase: <ul style="list-style-type: none"> <li>- Individual class contexts</li> <li>- Topics to be taught</li> <li>- Assessments, marking and feedback.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Know timetable and expected teaching commitments (the trainee should know which classes they will be taking on return and targets for development)</li> <li>• Be in a position to action plan for topics to be taught in next block of this placement.</li> <li>• Be able to develop a Medium Term Plan during UWE block.</li> <li>• Be able to critically reflect on teaching experience and progress made against the Teachers' Standards during this first induction phase.</li> </ul>	
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## Placement-Based Subject Study (Oct-Dec)

Subject Mentor Sessions	Directed Study	Teachers' Standards
<p><b>Week Beginning 31 October</b>  <b>Organisation of mentor sessions</b>            The Subject Mentor should ensure that mentor sessions during this block include:</p> <ul style="list-style-type: none"> <li>• Focused discussion of trainee's development and agenda items (as appropriate). Setting of agreed SMART targets and Weekly review.</li> <li>• Formative use of Trainee Assessment Toolkit to help monitor trainee's progress against the Teachers' Standards</li> <li>• Completion by trainee of the weekly reflection for each week. Mentor to agree targets .</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• E-mail timetable to Group Tutor</li> <li>• Take this handbook, Teaching File and have access to your PDP in each mentor meeting</li> <li>• Use the Trainee Assessment Toolkit to identify progress against the Teachers' Standards as agreed.</li> <li>• Complete a Weekly reflection providing evidence of development and actions taken since the last meeting with your Subject Mentor.</li> </ul>	<p><b>TS8</b> Fulfil wider professional responsibilities</p>
<p><b>At the first mentor meeting</b>            The Subject Mentor should:</p> <ul style="list-style-type: none"> <li>• Agree use of Trainee Assessment Toolkit and Weekly reflections</li> <li>• Discuss trainee's progress in relation to targets set and/or planning for lessons</li> <li>• Ensure trainee has a teaching file with medium term planning.</li> </ul>	<p>The trainee should :</p> <ul style="list-style-type: none"> <li>• have an organised teaching file used as a working document</li> <li>• have completed the first Weekly reflection to a high standard</li> <li>• have evidence of using the Trainee Assessment Toolkit and PDP.</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons   <b>TS8</b> Fulfil wider professional responsibilities</p>
<p><b>(October to December)</b></p>		

<p><b>Agenda (ongoing) 6 Weeks</b> <b>Lesson Observations</b></p> <p>The Subject Mentor should:</p> <ul style="list-style-type: none"> <li>• Carry out recommended number of formal lesson observations and provide written feedback within an agreed timescale</li> <li>• Debrief the trainee after observing lessons and set SMART targets</li> <li>• Monitor and support trainee's progress towards meeting the Teachers' Standards to help inform the Placement Report.</li> </ul>	<p><b>Weekly reflection, reviewing evidence and target setting to show progress against the Teachers' Standards.</b></p> <p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Reflect on weekly formal and informal feedback from mentor meetings and observations</li> <li>• Update evidence of progress and their use of the PDP.</li> <li>• Continue to plan and adapt planning according to lesson feedback as appropriate.</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><b>TS4</b> Plan and teach well-structured lessons</p>
<p><b>(October to December)</b> <b>Agenda (on going)</b> <b>Feedback during Mentor Meetings</b></p> <p>During feedback and as part of the meeting the mentor should:</p> <ul style="list-style-type: none"> <li>• continue to monitor the trainee's individual needs: Focus of mentoring could be on: <ul style="list-style-type: none"> <li>- planning for effective learning</li> <li>- linking activities with objectives</li> <li>- starts and ends of lessons</li> <li>- developing a range of teaching and learning approaches</li> <li>- time management</li> <li>- pace</li> </ul> </li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Maintain an organised Teaching File with written evaluations for each lesson taught</li> <li>• Evaluate lessons in terms of teaching and for progression in pupils' learning to inform subsequent lesson planning</li> <li>• With support of the mentor synthesise targets from observations, mentor meetings and self-review into weekly SMART targets</li> <li>• Reflect on structure of lessons, different approaches to learning</li> <li>• Review school policy on rewards and sanctions and follow up policy where</li> </ul>	<p><b>TS1</b> Set high expectations which inspire, motivate and challenge pupils</p> <p><b>TS2</b> Promote good progress and outcomes by pupils</p> <p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p> <p><b>TS4</b> Plan and teach well-structured lessons</p> <p><b>TS5</b> Adapt teaching to respond to the strengths and needs of all pupils</p> <p><b>TS6</b> Make accurate and productive use of assessment</p> <p><b>TS7</b> Manage behaviour effectively to ensure a good and safe learning environment</p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>

<ul style="list-style-type: none"> <li>- developing effective behaviour for learning strategies</li> <li>- differentiating for identified groups/individual pupils</li> <li>- approaches to questioning</li> <li>- evaluating learning outcomes</li> <li>- use of formative assessment in lessons</li> <li>- monitoring pupils' progress in lessons.</li> </ul>	<p>this has been necessary.</p>	<p><b>TS Part 2</b></p>
<p><b>Formal Observation (Joint with UWE Tutor)</b></p> <p>Visit by UWE Tutor for moderated joint observation with mentor</p> <p>The purpose of the visit is to:</p> <ul style="list-style-type: none"> <li>• provide an opportunity for joint observation and feedback to trainee</li> <li>• provide in-school training for mentor</li> <li>• moderate assessment of trainee progress in this lesson</li> <li>• moderate assessment of trainee progress over time via file scrutiny and discussion with mentor</li> <li>• discuss and moderate progress using the Trainee Assessment Toolkit.</li> <li>• discuss the forthcoming summative Placement Report</li> <li>• set targets for next stage of development.</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• provide observers with copies of the lesson plan, resources and student data for the class being observed</li> <li>• Have the PDP and Teaching File available for scrutiny e.g. to discuss quality of planning and lesson evaluations</li> <li>• Identify progress against Teachers' Standards and subject knowledge profile, ensuring that you can present evidence in the Professional Development Portfolio (PDP).</li> </ul>	<p><b>TS1-TS8 PART TWO: PERSONAL AND PROFESSIONAL CONDUCT</b></p> <p><i>A teacher is expected to demonstrate consistently high standards of personal and professional conduct. The following statements define the behaviour and attitudes which set the required standard for conduct throughout a teacher's career</i></p>

**Note: Agenda items are to be selected at a time and point appropriate to the trainee's experience and progress during the Placement and incorporated into a formal meeting.**

Subject Mentor Sessions	Directed Study	Teachers' Standards
<p><b>Agenda item Assessment, monitoring and feedback.</b> The mentor should as part of one formal session:</p> <ul style="list-style-type: none"> <li>• Introduce school and departmental policies for assessment. Discuss school's approach to monitoring, recording and reporting progress</li> <li>• Discuss the range of assessment strategies used by the trainee in lessons (AfL) and during and between lessons (AoL) e.g. marking of pupils' work</li> <li>• Identify opportunities for trainee assessment of pupils' progression during lessons, and over the term</li> <li>• Encourage the trainee to understand how the assessment of pupils' progress can inform the planning of future lessons.</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Discuss with your mentor how you:               <ul style="list-style-type: none"> <li>- have assessed and recorded the pupils' progress and attainment in your classes</li> <li>- have given the pupils' feedback e.g. oral, written, formative, summative.</li> <li>- have used pupils' assessment information and data to inform your future teaching. Insights from these activities may be helpful when you work on the Classroom Based Enquiry: (CBE) assignment later in the course.</li> </ul> </li> </ul>	<p><b>TS6</b> Make accurate and productive use of assessment</p> <ul style="list-style-type: none"> <li>- <i>make use of formative and summative assessment to secure pupils' progress</i></li> <li>- <i>use relevant data to monitor progress, set targets, and plan subsequent lessons</i></li> <li>- <i>give pupils regular feedback, both orally and through accurate marking, and encourage pupils to respond to the feedback.</i></li> </ul>
<p><b>Agenda Item: Medium Term Planning.</b> The mentor should discuss as part of one formal session:</p> <ul style="list-style-type: none"> <li>• Developing medium-term planning i.e. a sequence of 3-4 lessons</li> <li>• Discuss the quality of the teaching file- do the lesson plans/ evaluations show evidence of detailed attention to</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Evidence how you have made progress in moving from individual lesson planning to planning sequences of lessons</li> <li>• Use the teaching file as a working document with high quality lesson planning, sequences of lessons and</li> </ul>	<p><b>TS2</b> Promote good progress and outcomes by pupils</p> <p><b>TS4</b> Plan and teach well-structured lessons</p>

planning to promote good progress and outcomes by pupils.	evaluations which stress high quality learning.	
<p><b>Agenda item: Achievement and Diversity.</b></p> <p>The mentor should as part of one formal session, or through arranging a meeting with the SENCO, discuss the trainee's developing understanding of planning for inclusion:</p> <ul style="list-style-type: none"> <li>- Pupils with Special Educational Needs/Disability (SEN/D)</li> <li>- Individual Education Plans (IEPs)</li> <li>- Pupils identified as Gifted and Talented (G&amp;T)</li> <li>- Pupils with English as an Additional Language (EAL)</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Discuss with an appropriate colleague school provision for inclusion</li> <li>• With the guidance of your Subject Mentor, identify a pupil with SEN/D and arrange to observe/work with this pupil over a series of lessons</li> <li>• Explore ways of supporting pupils with additional needs</li> <li>• Read the Code of Practice.</li> </ul>	<p><b>TS5</b> Adapt teaching to respond to the strengths and needs of all pupils  <i>- have a clear understanding of the needs of all pupils, including those with special educational needs; those of high ability; those with English as an additional language; those with disabilities</i></p>

<b>Subject Mentor Sessions</b>	<b>Directed Study</b>	<b>Teachers' Standards</b>
<p>The mentor should as part of a number of agreed sessions:</p> <ul style="list-style-type: none"> <li>• Use the Trainee Assessment Toolkit to discuss trainee's progress against the Teachers' Standards, review previous targets and agree new SMART targets.</li> </ul>	<p>The trainee should ensure:</p> <ul style="list-style-type: none"> <li>• PDP is updated at regular intervals through discussion with the subject mentor</li> <li>• Targets are SMART and are not procedural (lists of tasks to complete).</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons</p> <p><b>TS8</b> Fulfil wider professional responsibilities</p>

<p><b>Agenda item: Assignment: Subject Knowledge for Teaching (SKfT)</b> The mentor should, as part of one formal session:</p> <ul style="list-style-type: none"> <li>• Discuss the weak area of subject knowledge the trainee has identified to base their Masters level assignment on</li> <li>• Observe a lesson with a specific focus on subject knowledge and have discuss the subject knowledge and subject pedagogy.</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Share with your mentor the topic chosen for your SKfT assignment and discuss with your mentor different interpretations of subject knowledge based on your literature review</li> <li>• <b>Subject Knowledge Profile:</b> For <u>one observation</u> Discuss why particular pedagogical approaches were selected for presenting computer science.</li> </ul>	<p><b>TS3</b> Demonstrate good subject and curriculum knowledge</p>
<p><b>Agenda Item: Out of Class learning//ICT/ school context</b> The mentor should as part of one formal session select one of the following as appropriate to discuss:</p> <ul style="list-style-type: none"> <li>• School trips</li> <li>• School structure or organisation which impacts on computer science,</li> <li>• Use of modern technologies</li> </ul>	<p>The trainee should:</p> <ul style="list-style-type: none"> <li>• Review departmental policy on school trips including risk assessment/safeguarding – review when</li> <li>• Plan for pupils to use modern technologies in computer science and if appropriate deliver this</li> </ul>	<p><b>TS4</b> Plan and teach well-structured lessons <i>- set homework and plan other out-of-class activities to consolidate and extend the knowledge and understanding pupils have acquired</i></p>
<p><b>Placement Report.</b> The mentor should</p> <ul style="list-style-type: none"> <li>• Use the Trainee Assessment Toolkit inform discussion leading up to the completion of the Placement Report</li> <li>• Provide comments for Senior Mentor to complete the Placement Report. A specific comment about the trainee’s teaching file should be made under TS4</li> </ul>	<p>The trainee should ensure:</p> <ul style="list-style-type: none"> <li>• <b>Professional Development Portfolio</b> – this should be up to date prior to leaving the placement and returning to UWE.</li> <li>• <b>Teaching File</b> for Placement A is complete and ready for further scrutiny at UWE.</li> </ul>	<p><b>TS8</b> Fulfil wider professional responsibilities <i>- make a positive contribution to the wider life and ethos of the school</i> <i>- develop effective professional relationships with colleagues.</i></p>

<ul style="list-style-type: none"><li>• The subject mentor at the second placement will rely on your detailed comments on the trainee's progress</li><li>• Comment on and sign the trainee's completed Subject Knowledge Profile.</li></ul>	<ul style="list-style-type: none"><li>• A copy of the <b>Placement Report</b> is available for UWE Group Tutor/Partnership Office</li><li>• <b>Subject Knowledge Profile</b> – is updated and commented on by the mentor.</li></ul>	
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