

Secondary ITE Subject Studies Curriculum Map

2026/27

Background and Rationale

The LJMU Computing Subject Studies curriculum is designed to develop teachers who are confident with a challenging and ever-changing subject. Working alongside the Professional Studies curriculum, it supports student teachers in developing secure subject knowledge, effective classroom practice and an understanding of how pupils learn complex and abstract computing concepts.

The Computer Science GCSE course itself is a mixture of theory and practical program development. It is a challenging and in-depth curriculum that covers a wide spectrum of topics. For instance, how does the document you are reading now actually appear on your screen? How do the wires and networks that allow the document to be downloaded work? The subject also considers the laws that determine how secure information needs to be and how that security works technically.

Pupils learn about the physical hardware that underpins the computing world, alongside learning how to create computer programs that solve problems and manipulate data. They develop computational thinking through decomposition, abstraction, logical reasoning and algorithm design

As a computing teacher, you will inspire and motivate young people to learn about computers and the increasingly important role they play in society. You will help pupils develop the abstract thinking and problem-solving skills needed to design, build, test and improve computer programs. The curriculum is broad, ranging from mathematical and logical concepts to the ethical, legal, cultural and social issues surrounding computer use.

A computing teacher therefore needs to be adaptable and, most importantly, able to break down complex and abstract concepts into manageable stages that young learners can access. Effective teaching also requires an awareness of common misconceptions, careful sequencing of knowledge and the use of practical activities, models and analogies.

Throughout the programme, subject knowledge and pedagogy are taught together. Student teachers consider not only what pupils need to learn, but also how computing concepts can be explained, modelled, assessed and adapted to enable all pupils to succeed. You will be taught methods for teaching this subject with an emphasis on practical advice for the unique challenges and rewards that teaching computing brings.

Curriculum Themes

The LJMU Secondary Computing curriculum is built around four connected themes. These are unpacked through university sessions, school placements and practical teaching activities.

Theme 1 – Classroom Management

Student teachers learn how to manage the particular demands of a computer room. This includes preparing equipment, organising seating, establishing clear routines and strategies for maintaining pupil behaviour and productivity.

Theme 2 – Teaching Across Key Stages

Student teachers develop their knowledge of Computing from KS2 through to KS5. They learn how to teach programming, computer systems, networks and other key topics by breaking complex ideas into clear, manageable steps. They also explore curriculum planning, exam specifications and common misconceptions.

Theme 3 – Assessment

This theme explores questioning, feedback and formative and summative assessment. Student teachers consider how to check genuine understanding, particularly in programming, where working code does not always show that a pupil understands how it works.

Theme 4 – Beyond the Computer Room

Student teachers explore the work that takes place beyond individual lessons. This includes curriculum planning, setting homework, supporting remote learning, attending parents' evenings and contributing to the wider life of the school. They consider links between Computing and other subjects, including subjects they may also be asked to teach. They also learn how to keep their knowledge up to date through professional reading, training and involvement in online Computing communities.

Five Essential Readings

Coleman, G. (2020) The Big Book of Computing Pedagogy, https://helloworld.raspberrypi.org/books/big_book_of_pedagogy/pdf

Clarke, B. (2017) Computer Science Teacher: Insight Into the computing classroom, Beverly, ISBN-13: 978-1780173948

Lau, W. (2017) Teaching Computing in Secondary Schools: A Practical Handbook. Routledge. ISBN-13: 978-1138238060

Harrison, J. (2021) How to Teach Computer Science: Parable, practice and pedagogy John Catt Educational Ltd ISBN-13: 978-1913622572

Sentence, S. (2018) Computer Science Education: Perspectives on Teaching and Learning in School Bloomsbury ISBN-13: 978-1350057104

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
7 th September AM	Computer Science Teaching – Introduction and historical context. Session content: 1. An overview of <i>this</i> course. 2. The structure, purpose and expectations of the sessions. 3. A presentation and discussion on the history and development of Computer Science as a teaching subject. 4. A presentation and discussion on teaching as a career choice.	Key reading for session: Chapter 2: THE ROLE OF THE COMPUTER SCIENCE TEACHER Clarke, B. (2017). Computer Science Teacher: Insight Into the computing classroom (BCS Guides to IT Roles) Beverly ISBN-13: 978-1780173948	Discuss: What do you believe is the purpose of Computing education? How is this reflected in your department's curriculum and teaching?	Q3 Q1	3.1, 3.6, 3.7, 8.1, 8.2
11 th September AM	Workshop to ‘What Makes a Good Teacher and a Purposeful Lesson of Computing.’ Introduction to SKE audit and Resources Lesson planning in Computing To understand what a learning outcome is and how to structure a Computing lesson	Chapter 1: DESIGNING A SECONDARY CURRICULUM MAP Lau, W. (2017). Teaching Computing in Secondary Schools: A Practical Handbook. Routledge. ISBN-13: 978-1138238060	Observe how Computing lessons are structured differently for different key stages and abilities.	Q3 Q5	3.1, 3.4, 3.5, 3.6, 3.8
11 th	The Computing Curriculum and	Essential reading:	Discuss with your	Q3	3.1, 3.6, 3.7,

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
September PM	Community Explore how Computing is structured from KS2 to KS5 and how knowledge and skills progress across key stages. Identify professional communities, resources and subject networks that support continuing development as a Computing teacher.	• Lau, W. (2017) Teaching Computing in Secondary Schools: A Practical Handbook, Chapter 1. • Royal Society (2017) After the Reboot: Computing Education in UK Schools. • Computing At School (CAS): professional community and resources. Student activity: Compare the KS2, KS3 and KS4 Computing programmes of study and identify examples of progression in programming, systems and digital literacy.	mentor how the department curriculum builds from KS2 into KS3 and GCSE. Identify the main resources and professional networks used by the department.	Q9 Q10	8.1, 8.2, 8.7
18 th September AM	Research-informed Computing and Literature in Computer Science Education • Develop confidence in locating and evaluating research, policy and practitioner literature in Computing education. • Explore how pedagogical content knowledge and common misconceptions should influence lesson planning.	Essential reading: • Lau, W. (2017) Teaching Computing in Secondary Schools, Chapter 6: Pedagogical Content Knowledge in Computing. • Sentance, S. et al. (2018) Computer Science Education: Perspectives on Teaching and Learning in School. Student activity: Identify one research-informed idea that could improve the teaching of an abstract Computing concept and explain how it could be applied in a lesson.	Observe how experienced teachers explain difficult or abstract Computing concepts. Discuss with your mentor which misconceptions occur most frequently.	Q3 Q5 Q9	2.1, 2.2, 3.2, 3.3, 3.4, 3.7, 8.9
18 th September PM	Becoming an Inclusive Computing Teacher – Adaptive Classroom Practice • Recognise barriers that can prevent pupils from accessing Computing, including SEND, prior experience, confidence and access to technology.	Essential reading: Teach Computing: Creating an Inclusive Classroom – Approaches to Supporting Learners with SEND in Computing. Clarke, B. (2020) Encouraging an Inclusive Computer Science Environment, Hello World. Student activity: Adapt a short programming or	Identify pupils who may experience barriers in Computing. Discuss with the mentor how tasks, software, explanations and support are adapted without	Q1 Q6	1.3, 1.5, 1.6, 1.8, 5.1, 5.3, 5.5, 5.7, 8.6

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	• Explore practical adaptations that maintain ambitious expectations while improving access to programming and theory.	computer-systems activity for pupils with different starting points and needs.	reducing challenge.		
25 th September all day	ITAP 1 – Starting Lessons and Classroom Management in the Computer Room • Start a Computing lesson in a calm and controlled manner. • Establish routines for entry, logging on, equipment, seating, transitions and gaining attention. • Respond effectively to disruption while maintaining safe and productive use of technology.	Essential reading: • Lau, W. (2017) Teaching Computing in Secondary Schools, Chapter 5: Actions, Habits and Routines in the Computing Classroom. • Hello World: Behaviour Management in the Computing Classroom. Student activity: Practise a lesson start that includes entry, seating, login, starter activity, equipment expectations and a clear transition to teacher explanation.	Observe how Computing teachers start lessons and manage devices, seating, login issues and pupil attention. Set a target for establishing one routine consistently.	Q1 Q8	1.1, 1.5, 1.6, 1.7, 1.8, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10
2 nd October all day	ITAP 2 – Questioning and Formative Assessment in Computing • Ask effective questions that reveal genuine pupil understanding rather than simply task completion. • Use different response modes, including mini-whiteboards, code tracing, prediction and short written responses.	Essential reading: • Sentance, S. (2020) Formative Assessment in the Computer Science Classroom. • Kallia, M. (2017) Assessment in Computer Science: A Literature Review. Student activity: Design a sequence of diagnostic questions for a programming concept and practise responding to common incorrect answers.	Observe questioning during practical and theory Computing lessons. Discuss how the teacher checks whether pupils understand code that appears to work.	Q5 Q7	4.5, 4.6, 5.1, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7
9th October all day	ITAP 3 – Modelling and Explanation in Computing • Model and explain abstract	Essential reading: • Harrison, J. (2021) How to Teach Computer Science: Parable, Practice and Pedagogy. • Coleman, G. (2020) The Big Book of Computing	Observe how teachers model programming and abstract theory. Identify where	Q5 Q7	3.2, 3.3, 3.4, 3.5, 3.6, 4.2, 4.4, 4.5, 4.7, 6.1

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	Computing knowledge, processes and skills clearly. • Practise the hand-over from teacher modelling to guided and independent pupil activity.	Pedagogy – sections on modelling, worked examples and code tracing. Student activity: Practise a short explanation using live coding, tracing, diagrams or analogy, then design a guided-practice task that follows it.	explanations are chunked, examples are worked through and responsibility is handed to pupils.		
16 th October AM	ITAP 4 – Subject-specific Pedagogy in Computing • Use Computing-specific pedagogies to develop pupil knowledge, understanding and problem-solving skills. • Promote precise technical vocabulary and recognise common misconceptions. • Select appropriate approaches such as live coding, code tracing, unplugged activities, Parsons problems and worked examples.	Essential reading: • Coleman, G. (2020) The Big Book of Computing Pedagogy. • Sentance, S. and Csizmadia, A. – research on pedagogical strategies in school Computing. Student activity: Compare several ways of teaching the same Computing concept and justify which approach would best support a particular class.	Identify two examples of subject-specific Computing pedagogy in school. Discuss with your mentor how misconceptions are anticipated and corrected.	Q3 Q4 Q6	3.3, 3.4, 3.5, 3.6, 3.10, 4.1, 5.4, 5.7
23 rd October All Day	Effective Computing Teaching – PRIMM, Planning and Sequencing • Explore PRIMM as a structured approach to teaching programming. • Plan a coherent sequence that moves pupils from reading and predicting code towards modifying and making programs. • Consider how retrieval, rehearsal and carefully sequenced practice support secure learning.	Essential reading: • Coleman, G. (2020) The Big Book of Computing Pedagogy, Chapter 22: The PRIMM Approach. • Lau, W. (2017) Teaching Computing in Secondary Schools – lesson and medium-term planning. Student activity: Create a short PRIMM learning sequence using Predict, Run, Investigate, Modify and Make, including checks for understanding.	Review a programming scheme of learning with your mentor. Identify how concepts are sequenced and where pupils revisit prior knowledge.	Q2 Q3 Q5	2.3, 2.4, 2.6, 3.6, 3.8, 4.1, 4.8

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
6 th November AM	Subject Knowledge Development – Computer Systems and the CPU • Develop secure knowledge of CPU components, registers and the fetch-decode-execute cycle. • Explore practical models, diagrams and analogies for teaching memory and computer systems while avoiding common misconceptions.	Essential reading: • Teach Computing – Key Stage 4 Computer Systems resources. • Oak National Academy – GCSE Computing: computer systems. Student activity: Work through lesson activities on CPU components, the fetch-decode-execute cycle, RAM, ROM and secondary storage.	Discuss how computer systems are taught in your placement school. Identify one misconception pupils commonly hold and how it is addressed.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
6 th November PM	Feedback and Wider Teaching Methods in Computing • Evaluate a range of approaches including retrieval, analogy, project-based learning, peer assessment and self-assessment. • Consider how feedback can move pupils forward in both programming and theory lessons.	Essential reading: • Sentance, S. and Csizmadia, A. Computing in the Curriculum: Challenges and Strategies from a Teacher's Perspective. • Hughes, M. (2014) The Magenta Principles. Student activity: Evaluate several teaching approaches against a Computing topic and design a short activity that uses one method deliberately.	Identify examples of feedback and wider pedagogy used in Computing. Discuss which approaches appear most effective for different types of content.	Q5 Q9 Q10	4.3, 4.5, 4.9, 6.1, 6.2, 6.4, 8.7, 8.9
13 th November AM	AS2 Briefing and Retrieval Practice in Computing • Prepare for AS2 and connect academic reading with classroom enquiry. • Examine different forms of retrieval practice in Computing and distinguish meaningful retrieval from simple recall.	Essential reading: • Sentance, S. and Csizmadia, A. – Computing pedagogy and classroom strategies. • Coleman, G. (2020) The Big Book of Computing Pedagogy – retrieval and assessment sections. Student activity: Design retrieval activities for programming, systems and technical vocabulary, including code tracing and low-stakes diagnostic questions.	Observe how prior Computing knowledge is retrieved and connected to new learning. Discuss with your mentor how retrieval is built into schemes of learning.	Q2 Q6	2.1, 2.2, 2.3, 2.8, 2.9, 2.10, 4.4, 4.5
13 th November PM	Assessment Beyond Questioning – What Does Progress in Computing	Essential reading: • Sentance, S. (2020) Formative Assessment in the Computer Science Classroom.	Review how your department assesses programming and	Q2 Q7	6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	Look Like? • Compare formative and summative approaches to assessing Computing. • Evaluate pupil understanding through code, explanations, trace tables, debugging and written responses rather than relying on successful program execution alone.	• Kallia, M. (2017) Assessment in Computer Science: A Literature Review. Student activity: Moderate examples of pupil work and identify evidence of progression, misconceptions and appropriate next steps.	theory. Discuss what evidence teachers use to distinguish performance from genuine understanding.		
20 th November AM	Subject Knowledge Development – Programming: Selection • Use selection confidently in pseudocode and a procedural programming language. • Explore how to teach IF, ELSE and CASE/SELECT structures through prediction, tracing and progressive practice.	Essential reading: • Teach Computing – Key Stage 4 Programming resources. • Oak National Academy – GCSE Computing programming sequences. Student activity: Work through and adapt lesson exercises that develop selection from simple conditions to nested and multi-branch decisions.	Identify how selection is introduced and practised in school. Note common syntax and logic errors and how teachers respond to them.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
20 th November PM	Subject Knowledge Development – Boolean Logic and Logic Gates • Develop secure understanding of AND, OR and NOT gates, truth tables and Boolean conditions. • Connect programming selection to logical reasoning and physical/computational circuits.	Essential reading: • Teach Computing – Key Stage 4 Boolean logic resources. • Oak National Academy – GCSE Computing: logic gates and truth tables. Student activity: Construct truth tables and design simple logical circuits, then plan how to explain the link between conditions in code and Boolean logic.	Discuss how Boolean logic is taught and assessed. Identify representations or analogies that help pupils avoid common misconceptions.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
27 th November	Adaptive Teaching, SEND and Inclusion in the Computing	Essential reading: • Teach Computing: Creating an Inclusive Classroom	Review the needs of pupils in your classes	Q1 Q6	1.6, 1.8, 5.1, 5.2, 5.3, 5.4,

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
All Day	Classroom • Explore common barriers experienced by learners with SEND in practical and theory Computing. • Adapt resources, programming environments, physical computing and classroom routines to improve access. • Consider effective deployment of support staff while retaining pupil independence and challenge.	– Approaches to Supporting Learners with SEND in Computing. • Clarke, B. (2020) Encouraging an Inclusive Computer Science Environment, Hello World. Student activity: Adapt a programming task and a theory task for different learner profiles, explaining how each adaptation removes a specific barrier.	with your mentor/SENCO where appropriate. Trial one evidence-informed adaptation and evaluate its impact.	Q8	5.5, 5.6, 5.7, 5.8, 7.3, 7.5, 8.5, 8.6, 8.8
4 th December AM	KS4 Computer Science – GCSE Specifications and Progression • Compare GCSE Computer Science specifications and understand how they interpret the national curriculum. • Explore progression from KS3 to KS4 and the balance between programming, theory and assessment.	Essential reading: • DfE National Curriculum in England: Computing Programmes of Study. • Long, P. (2020) Evaluating GCSE Computer Science Specifications. Student activity: Compare the structure, content and assessment approaches of major GCSE Computer Science specifications.	Identify the specification taught in your school. Discuss curriculum sequencing, assessment points and how KS3 prepares pupils for GCSE.	Q3 Q7 Q9	3.1, 3.5, 3.6, 6.1, 6.2, 6.4, 6.7, 8.1, 8.7
4 th December PM	Homework, Remote Learning and Independent Practice in Computing • Evaluate approaches to homework and remote learning in a subject that often depends on specialist software and hardware. • Plan manageable independent practice that reinforces Computing knowledge without creating unnecessary workload.	Essential reading: • Simmons, C. (2015) Teaching Computing, Chapter 9: Teaching Outside the Classroom. • Zeshan, R. (2022) Boosting Learning in Computer Science with Independent Research Homework Tasks. Student activity: Design a homework or remote-learning activity with clear purpose, access arrangements, feedback and contingency for pupils without suitable technology.	Review departmental homework expectations and online platforms. Discuss access, completion, marking workload and how independent learning is monitored.	Q4 Q8 Q10	2.4, 4.9, 5.1, 5.9, 7.2, 8.2, 8.3
11 th December	Get That Job Conference Professional Studies: applications, interviews and preparing for employment.				

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18 th December AM	Subject Knowledge Development – Databases and SQL • Develop secure understanding of databases as organised persistent stores of data. • Use SQL SELECT, FROM and WHERE to retrieve data and consider common pupil misconceptions about tables, fields, records and queries.	Essential reading: • Teach Computing – Key Stage 4 data and databases resources. • Oak National Academy – GCSE Computing: databases and SQL. Student activity: Create and interrogate a simple relational data set, then design an explanation that distinguishes data structure from query syntax.	Observe or discuss how databases are taught. Identify how practical SQL work is linked to conceptual understanding and assessment.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
18 th December PM	Review of Subject Knowledge, Lesson Quality and Preparation for the Next Placement • Review progress against the Computing subject knowledge audit and identify priorities for further development. • Evaluate the features of effective Computing lessons and plan how learning from the first term will transfer to the next placement.	Essential reading: • Harrison, J. (2021) How to Teach Computer Science – selected chapters. • Lau, W. (2017) Teaching Computing in Secondary Schools – planning and pedagogy sections. Student activity: Update the subject knowledge audit and prepare a short action plan covering subject knowledge, classroom practice and curriculum experience.	Share targets with your mentor and identify opportunities in the next phase to teach unfamiliar topics, key stages or qualifications.	Q3 Q9 Q10	3.6, 3.7, 3.8, 8.1, 8.2, 8.7
26 th February AM	GCSE Computer Science Marking and Assessment • Understand how assessment objectives and mark schemes are applied in GCSE Computer Science.	Essential reading: • Current GCSE Computer Science specification, sample assessment materials and mark schemes. • Kallia, M. (2017) Assessment in Computer Science: A Literature Review. Student activity: Mark and moderate a selection of	Compare school marking with exam-board expectations. Discuss how assessment information is used to plan reteaching and	Q2 Q7	3.8, 3.9, 3.10, 3.11, 4.6, 4.8, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 8.2

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	• Develop confidence in marking theory, algorithms and programming responses consistently.	GCSE responses, identifying where technical precision and computational reasoning gain credit.	intervention.		
26 th February PM	Subject Knowledge Development – Programming: Iteration • Use count-controlled and condition-controlled loops confidently. • Teach iteration as one of the core programming constructs and diagnose common errors such as incorrect conditions, bounds and infinite loops.	Essential reading: • OCR GCSE J277 SLR 2.2 – The Use of the Three Basic Programming Constructs. • ComputerScience.GCSE.Guru – Programming: Iteration. Student activity: Develop and trace programs using FOR and WHILE loops, then sequence examples from simple repetition to problem-solving tasks.	Identify how iteration is taught and revisited. Collect examples of common pupil errors and discuss effective feedback with your mentor.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
5 th March AM	Subject Knowledge Development – Programming: Subroutines and Scope • Use built-in and user-defined procedures/functions appropriately. • Explain parameters, return values and the difference between local and global variables.	Essential reading: • Isaac Computer Science – Subroutines. • Revise Computer Science – Practice Writing Algorithms: Subroutines. Student activity: Write and refactor programs using procedures and functions, then design examples that make scope and parameter passing visible to pupils.	Discuss how functions/procedures are introduced and how pupils are moved from repeated code towards decomposition and reusable solutions.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
5 th March PM	Literacy, Technical Vocabulary and Ethical Issues Across Computing • Develop strategies for teaching precise technical vocabulary, extended explanation and interpretation of exam questions. • Explore ethical, legal, cultural and environmental issues as opportunities for structured discussion and	Essential reading: • Vee, A. (2013) Understanding Computer Programming as a Literacy. • Teaching London Computing – Computer Science and English. • GCSE resources on ethical, legal, cultural and environmental concerns. Student activity: Design a vocabulary-rich learning episode and a structured discussion/writing task around a contemporary Computing issue.	Identify literacy demands in Computing lessons and assessments. Discuss how the department develops technical language and supports extended written responses.	Q2 Q3 Q7	3.5, 3.7, 4.3, 4.5, 4.8, 5.2, 6.6

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	disciplinary literacy.				
12 th March all day	Responsible Computing – AI, Digital Ethics, Representation and Online Safety • Explore how Computing teachers can facilitate balanced, evidence-informed discussion of rapidly changing digital technologies. • Consider bias, data, privacy, intellectual property, environmental impact, online safety and the opportunities and limitations of AI. • Plan inclusive learning that connects technical knowledge with its social consequences.	Essential reading: • GCSE Computing resources on ethical, legal, cultural and environmental concerns. • Sentance, S. et al. (2018) Computer Science Education – selected sections on curriculum and participation. Student activity: Develop a classroom enquiry around a contemporary digital issue, identifying the technical knowledge pupils need before evaluating competing viewpoints.	Review where digital ethics, AI, online safety and representation appear in the school curriculum. Discuss how controversial or fast-changing issues are kept accurate and balanced.	Q1 Q3 Q5 Q9	1.2, 1.5, 1.6, 3.6, 3.7, 5.1, 8.2, 8.4
19 th March all day	Post-16 Computing – KS5 Progression and Advanced Study • Explore progression from GCSE to A Level Computer Science and vocational Computing qualifications. • Consider changes in subject depth, programming independence, mathematical demand and assessment at post-16.	Essential reading: • Review current A Level Computer Science specifications and support materials. • DfE Computing curriculum and qualification specifications relevant to post-16 progression. Student activity: Compare GCSE and A Level expectations for programming, algorithms and computer systems and identify knowledge that needs strengthening at transition.	Observe KS5 Computing where possible or discuss post-16 progression with a specialist teacher. Identify how KS4 prepares pupils for advanced study.	Q2 Q3 Q5 Q7	3.1, 3.6, 4.1, 6.1, 8.1, 8.2
16 th April all day	Computing Beyond the Classroom – Enrichment, Cross-curricular Learning and Professional Community • Explore how clubs, competitions,	Essential reading: • Simmons, C. (2015) Teaching Computing, Chapter 9: Teaching Outside the Classroom. • Computing At School (CAS) and Teach Computing professional development resources.	Discuss the wider role of Computing in your school, including clubs, competitions, cross-curricular support and staff	Q4 Q8 Q10	3.7, 3.10, 3.11, 7.2, 8.1, 8.3, 8.7

	Title and Objectives	Essential Reading and Student Activity (pre or post session)	Placement Activity / Focus for GM	PE Links	ITTECF Links
	physical computing, trips, visitors and cross-curricular projects can extend Computing learning. Consider the role of Computing teachers in supporting digital capability across the wider school and maintaining their own professional knowledge.	Student activity: Plan an enrichment or cross-curricular Computing activity, including purpose, access, safeguarding/risk considerations and links to curriculum learning.	development. Identify one opportunity to contribute.		
23 rd April AM	Subject Knowledge Development – Programming: Strings, Lists and File Handling - Manipulate strings and lists using indexing, slicing and common operations. - Use basic file handling operations and consider how these concepts can be sequenced for GCSE learners.	Essential reading: - Teach Computing – Programming Part 5: Strings and Lists. - GCSE Computing resources on string manipulation and file handling. Student activity: Complete and adapt programming tasks involving strings, lists and file operations, identifying likely misconceptions and debugging opportunities.	Discuss where strings, lists and file handling sit in the programming curriculum. Identify how prior knowledge of iteration and subroutines is revisited.	Q3 Q5	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2
23 rd April PM	Subject Knowledge Development – Networks and Communication - Develop secure knowledge of network types, hardware, transmission media, protocols, DNS and network topologies. - Explore models and practical activities that make invisible network processes understandable to pupils.	Essential reading: - Teach Computing – Key Stage 4 Networks resources. - Oak National Academy – GCSE Computing: networks and communication. Student activity: Work through network-design and data-transmission activities covering client-server/peer-to-peer networks, DNS, hardware and star/mesh topologies.	Review how networks are taught and assessed in your school. Discuss which diagrams, simulations or analogies are most effective and where misconceptions arise.	Q3 Q5 Q9	3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 8.2
30 th April All Day	Curriculum Planning, Evaluation and Improvement in Computing Design and evaluate a coherent	Essential reading: - Lau, W. (2017) Teaching Computing in Secondary Schools, Chapter 2: Medium-term Planning. - Simmons, C. (2015) Teaching Computing, Chapter	Evaluate a KS3 or KS4 scheme of learning with your mentor. Discuss why content	Q2 Q3 Q5 Q7	3.1, 3.6, 3.7, 3.8, 5.1, 8.1, 8.2, 8.4

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	Computing curriculum that sequences substantive knowledge, programming skills and computational thinking over time. • Use examination specifications, assessment evidence and pupil needs to refine medium-term planning.	4: Planning a Sequence of Lessons. Student activity: Create or refine a 6–12 lesson curriculum sequence showing progression, retrieval, assessment, adaptation and contingency planning.	has been selected and sequenced as it has, and identify one evidence-informed improvement.		