Subject Contact Mrs Osborne
Curriculum Overview for Year 7 in Computer Science

Year 7 Assessment point 1: information about the data that is provided on reports to parents following the assessments eg current progress, A2L

Year 7 Assessment point 2: information about the data that is provided on reports to parents following the assessments eg current progress, A2L

Year 7 Assessment point 3: information about the data that is provided on reports to parents following the assessments eg current progress, A2L

Date of Formative Assessment 1: 14/11/2022
Date of Formative Assessment 2: 23/01/2023
Date of Formative Assessment 3: 20/03/2023
Date of Formative Assessment 4: 22/05/2023
Date of Formative Assessment 5: 10/07/2023

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Knowledge and	**Unit 1 – Using computers effectively, safely and responsibly** This is an introductory unit in which students	**Unit 1 – Using computers effectively, safely and responsibly cont.** ● Keeping data safe	**Unit 2 – Spreadsheet modelling cont.** ● 'What if…' scenarios ● Conditional	**Unit 3 – Control systems with Flowol** This unit introduces students to using flowcharts to model real	**Unit 4 – Scratch** This unit introduces students to programming using a 'Build your own Blocks' approach	**Unit 5 – Graphics** This unit introduces students creating and using different types of graphics

skills which will be covered this year	will learn about ● Expectations and routines ● School network and Google Classroom ● File management ● Social networking **Unit 2 – Spreadsheet modelling** This unit introduces students to using tools to model scenarios using data ● Computer models ● Formatting ● Creating a financial model	● Email features	formatting ● Validation ● Charts and Macros	life systems ● Flowcharts ● Sequencing ● Sensors ● Subroutines ● Actuators ● Variables	● Sequencing ● Variables ● Selection ● Operators ● Count controlled iteration	● Vector graphics ● Bitmap graphics ● Conveying meaning ● Enhancements and effects ● Text

Curriculum Overview for Year 8 in Computer Science

Year 8 Assessment point 1: information about the data that is provided on reports to parents following the assessments
Year 8 Assessment point 2: information about the data that is provided on reports to parents following the assessments
Year 8 Assessment point 3: information about the data that is provided on reports to parents following the assessments

Date of Formative Assessment 1: 07/11/2022
Date of Formative Assessment 2: 09/01/2023
Date of Formative Assessment 3: 20/03/2023
Date of Formative Assessment 4: 03/07/2023

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July

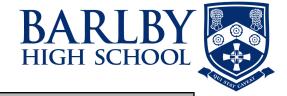|	1	2	3	4	5	6
Knowledge and skills which will be covered this year	**Unit 1 – HTML and Website development** This unit introduces students to creating webpages using HTML • Writing HTML • CSS (Cascading Style Sheets) • Responsive design • Design and Development • Creating a web form	**Unit 2 – Computer crime and Cyber security** This unit builds on the e-safety aspects in Year 7 and looks at how Cyber security aspects are used to tackle computer crime • Email scams • Computer misuse • Protecting personal data • Copyright • Health and safety	**Unit 3 – Computational thinking and logic** This units introduces students to the power of problem solving and the different methods Computer Scientists use to tackle problems • Logical thinking • Logic gates • Algorithmic thinking	**Unit 3 – Computational thinking and logic cont.** • Algorithmic thinking • Abstraction • Decomposition	**Unit 4 – Introduction to Python** This unit builds on the Scratch programming in Year 7 and introduces students to a text based programming language giving plenty of opportunity to develop their practical programming skills within each topic • Strings and variables • Data types and arithmetic • Selection	**Unit 4 – Introduction to Python cont.** • Writing algorithms • While loops • Searching • Practical programming throughout the unit

Curriculum Overview for Year 9 in Computer Science

Year 9 Assessment point 1: information about the data that is provided on reports to parents following the assessments
Year 9 Assessment point 2: information about the data that is provided on reports to parents following the assessments
Year 9 Assessment point 3: information about the data that is provided on reports to parents following the assessments

Date of Formative Assessment 1: 17/10/2022
Date of Formative Assessment 2: 16/01/2023
Date of Formative Assessment 3: 06/03/2023
Date of Formative Assessment 4: 01/05/2023
Date of Formative Assessment 5: 10/07/2023

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
Knowledge and skills which will be covered this year	**Unit 1 – Understanding computers** This unit gives students an insight into how computers work ● Elements of a computer ● Input and output devices ● The CPU ● Understanding Binary ● Binary addition ● Storage devices ● Convergence and new technology	**Unit 2 – Python: Next steps** This unit builds upon the Python work completed in Year 8 ● The basics ● Loops ● Lists ● Practical programming throughout the unit	**Unit 2 – Python: Next steps cont.** ● Procedures ● Functions ● Practical programming throughout the unit	**Unit 3 – Database development** This unit introduces the concept of databases ● Introduction to databases ● Queries ● Planning and creating a database table ● Input forms ● Creating a report	**Unit 4 – AI and Machine Learning** This unit allows students to consider the ethical, legal, social and cultural impact of Computer Science both now and in the future. ● What is AI ● Machine Learning ● Ethics of AI ● Image recognition ● Turing tests and chatbots ● Rate my review	**Unit 5 – Networks** This unit introduces students to the design and principles of networks and how computing devices communicate ● The Internet ● Connectivity ● Topologies ● Client-server networks ● Encryption

Curriculum Overview for Year 10 in Computer Science

Year 10 Assessment point 1: information about the data that is provided on reports to parents following the assessments
Year 10 Assessment point 2: information about the data that is provided on reports to parents following the assessments

Year 10 Assessment point 3: information about the data that is provided on reports to parents following the assessments

Date of Formative Assessment 1: 03/10/2022 & 07/11/2022
Date of Formative Assessment 2: 12/12/2022
Date of Formative Assessment 3: 06/02/2023
Date of Formative Assessment 4: 06/03/2023 & 24/04/2023
Date of Summative Assessment: 26/06/2023

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
AQA GCSE Computer Science (8525) Knowledge and skills which will be covered this year	**Paper 2** **Unit 4 – Computer systems** • Boolean logic • Application and system software • Languages and translators • Systems architecture • The CPU and Fetch Execute cycle • Memory	**Paper 2** **Unit 4 – Computer systems cont.** • Secondary storage **Paper 2** **Unit 5 – Networks** • Wired and wireless networks • Network topologies • Network security • Protocols and layers	**Paper 2** **Unit 7 – Relational databases and SQL** • Concept of a database • Relational database concept • SQL	**Paper 2** **Unit 3 – Data representation** • Units and Binary numbers • Binary arithmetic and Hexadecimal • ASCII and Unicode • Representing images • Representing sound	**Paper 2** **Unit 3 – Data representation cont.** • Data compression **Paper 1** **Unit 2B – Programming techniques** • Procedures • Functions • Variable scope • Structured approach • Validation • Authentication • Determining the purpose of	**Paper 1** **Unit 2B – Programming techniques cont.** • Finding errors • Trace tables • Errors • Testing **Mock exams Paper 1 and 2** Revision and preparation for mock exams

					algorithms	

Curriculum Overview for Year 11 in Computer Science

Year 11 Assessment point 1: information about the data that is provided on reports to parents following the assessments
Year 11 Assessment point 2: information about the data that is provided on reports to parents following the assessments
Year 11 Assessment point 3: information about the data that is provided on reports to parents following the assessments

Date of Formative Assessment 1: 10/10/2022
Date of Formative Assessment 2: 30/01/2023
Date of Summative Assessment 1: 14/11/2022
Date of Summative Assessment 2: 06/03/2023

The table below details the skills and knowledge students will be covering each half term in this subject area. Time frames for when students will complete their interim and masters assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in previous year/s.

Half Term	5th September - 21st October	31st October - 16th December	3rd January - 10th February	20th February - 31st March	17th April - 26th May	5th June - 25th July
	1	2	3	4	5	6
AQA GCSE Computer Science (8525) Knowledge and	**Paper 2** **Unit 7 – Relational databases and SQL** ● Concept of a database ● Relational database concept ● SQL **Paper 2**	**Paper 2** **Unit 4 – Computer systems cont.** ● Languages and translators ● Systems architecture ● The CPU and Fetch Execute cycle	**Paper 2** **Unit 4 – Computer systems cont.** ● Memory ● Secondary storage **Paper 1 Computational thinking and programming skills**	**Paper 2 Computing concepts** ● Review of units 3 through to 8 ● Exam revision **Mock exams Paper 1 and 2**	**Paper 1 Computational thinking and programming skills** Exam preparation and revision **Exam date:** TBC **Paper 2 Computing**	**Paper 2 Computing concepts** Exam preparation and revision **Exam date:** TBC

| skills which will be covered this year | **Unit 4 – Computer systems**

● Boolean logic
● Application and system software | **Mock exams Paper 1 and 2**

Revision and preparation for mock exams | ● Review of units 1, 2A and 2B
● Exam revision | Revision and preparation for mock exams | **concepts**

Exam preparation and revision | |