Computing department curriculum intent

Department curriculum intent:

Our Vision: we are aiming to make sure that all students:
♣ Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
♣ Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
♣ Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
♣ Are responsible, competent, confident and creative users of information and communication technology.

It is the aim of the department to enable students to develop skills and knowledge in computer science and digital technologies to prepare them for a future in a world where the use of this technology is fully embodied.   We wish to enthuse students to have an understanding far deeper than the interface that they currently operate, particularly in our current climate where Computing skill and understanding has become even more crucial.

We aim to enable students to develop a love of learning for the subject and an understanding that there are no limits to their own development in programming and IT. An important life skill for anyone is to problem solve. Using the strands of computational thinking will aid learners with their Computer Science studies and, as it is embedded within everyday life activities, they will understand that they cannot run before they can walk.   Students will be given guidance on how to work safely online so that it will be second nature to carry out all the necessary steps for their own safety as well as those around them.

At KS3, students are given the opportunity to develop their computer coding and digital technology skills. Learning the language of code is an important added bonus as students who develop their coding skills will be able to grasp the magic behind the computers. This will allow them to take their studies onto KS4 and to Further and Higher education if they desire and ultimately secure a career within a large range of industries. Our KS3 Computing curriculum covers the full range specified by the DFE and prepares our KS3 for GCSE by including challenging tasks or topics found in the next level of education, such as quick sort, recursion and big O notation, which is more often seen at GCSE and A level. Additional aspects, such as Machine learning, allow students to have a deeper understanding of how the digital world works around them. Covering aspects such as looking for the cables that connect their computers to the server in school, looking out for the 3G/4G mast in their area and comparing rural vs urban data transfer speeds forges a connection to their local environment.

At KS4, we offer 2 pathways, GCSE Computing and Cambridge technical in Creative imedia, thus catering for the 'Programmers' and the 'creatives'. In the past, we have drawn inspiration from their local area via their Controlled assessment briefs, for example, the photography unit for the summer exam series 2020, we had planned for and were ready to photograph Settle town architecture and had liaised with local businesses to identify potential issue areas. A previous website unit had students looking for activities in their local area to encourage teens to rediscover their local area.

At KS5, Cambridge Technical in IT, students can, and do, draw from experience in both GCSE Computing and Creative imedia to develop an in depth understanding of Computing fundamentals and Global data. They undertake 3 creative projects, including the opportunity to program via the games unit, thus allowing them to undertake a variety of career pathways in the IT industry.

Year 7

Overall curriculum intent for year 7: To become confident in the use of Settle College's online network and productivity tools (365, Teams and Arbor), to be aware of online risks and how to counter them and to develop and apply skills in various software to create digital products (Web page, video, scratch).						
	Half term 1	**Half term 2**	**Half term 3**	**Half term 4**	**Half term 5**	**Half term 6**
Intent for the half term	Know my way around the school's network and learning platforms Apply knowledge to use them appropriately		Understand how to keep yourself safe online and be a responsible Internet user Develop skill in specialist software		To know what an algorithm is and write them using pseudocode and flowcharts Learn programming constructs and apply them to develop a game Develop skills in trouble shooting and debugging. Develop basic skills in spreadsheets	
Content mapping	One drive, email, Word and Teams chat, assignments and meetings	PowerPoint and online collaboration Developing keyboard proficiency iDEA	Packet switching, internet risks (personal), video creation, internet risks and prevention to devices and data,	HTML and CSS web authoring	Flowcharts and pseudocode, program analysis, programming constructs, game development on Scratch Spreadsheet data logging, formulas and data analysis	
Disciplinary knowledge	Select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analysing, Evaluating and presenting data Use search technologies effectively, be discerning in evaluating digital Content		Use technology safely, respectfully and responsibly	evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic & algorithms Design, write and debug programs that accomplish specific goals Use logical reasoning to find and correct errors in algorithms and programs. Apply understanding to enter, manipulate, calculate and analyse data	
Assessment mapping (Quizizz every lesson)	PowerPoint	End of unit test	esafety video	Web page end of unit test	Flowcharts worksheet	Scratch game end of unit test Quizizz starters on Spreadsheets and data

Personal development mapping 15. Sense of enjoyment – all sections	2&21. equality of opportunity-social development- collaborative work on PowerPoint and what makes good peer feedback Rally coaching – helping each other	5. Developing pupils' character- emphasis on accessing all apps at home. (troubleshooting& encouraging independence)	1. Responsible, respectful and active citizens 7. Recognise online and offline risks	11&12. Careers/next stage - this is what web developers need to use to make websites 16. Creativity	11&12. Careers/next stage - this is what programmers use to plan their applications	16. Creativity 11&12. Careers/next stage- data
Disciplinary literacy	To understand that you don't pack lots of information in a presentation; Identify key information and present appropriately. When to use bullet points.	Writing to inform SPAG	Writing to inform Aiming information at a target audience	Accuracy in text	Analysis Accuracy in text	Evaluating Labels to display data Analysing data
Numeracy links			Reading and ordering numbers during packet switching. If time, check sum calculation.	Hex number system used to assign colour value to webpage. Use of values to determine asset sizes.	Logic, following a step by step sequence or creating one. Values in programming, predicting program flow = addition and subtraction, X and Y co-ordinates, negative numbers	Mathematical formulas to e.g. work out averages.
Cross-curricular links to other subjects	PowerPoint – talk about other subjects and what they mean/are				Languages – audio to be recorded in another language Maths – use of formulas	
Careers	Use of Teams and Office 365 prepares our students in using the most widely used productivity software in industry.		Link to web development industry	Link to application development industry and Any business/organisation that uses spreadsheets		

Support for all				
*All lessons are on Classnotes and can be viewed using immersive reader	Step by step demos/videos, how to guides, effective use of TAs and lots of opportunities to practice the same skill set.	Information for the tasks and key words are on class notes pages*, Step by step demos/videos, how to guides, effective use of TAs	Algorithm place mat provided, algorithms worked out in pairs and on the board. Class notes *	Step by step demos/videos, how to guides, effective use of TAs
Challenge ideas	Either improving on work or challenging them to work out how to do something extra on each application i.e. add a video on class notes	Challenging them to work out how to do something extra on each task – i.e. you have covered the main risks, find out what these extra risks are.	Challenging them to work out how to do something extra at each stage – e.g. once they have a web page with colour, how do they change that colour? How can they add google font styles?	Algorithm place mat has a challenge task

Challenging them to work out how to do something extra at each stage of their game

Challenges built into the spreadsheet work sheet |

Year 8

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Overall curriculum intent for year 8: Develop understanding in how computers and networks work. Know how binary is used to represent numbers, text and images. Develop skills in key specialist software, used in GCSE. Further develop understanding and use of programming constructs via the use of Python.						
Intent for the half term	Develop understanding in how computers and networks work	Understand Binary representation of images Develop graphic editing skills	Project development process (imedia)	Understand how Machine learning and big data shapes our digital world	Project development process	Website creation using a WYSIWYG editor
Content mapping	Input output, computer components, binary, networks, operating systems, H&S	Explain how a device (PC) stores reads and displays binary images. To explain how computers can represent bitmap image. graphic editing skills (layers, tools, workflow). Analysis of existing magazine covers, research assets for the magazine, design (visualisation) and creation (photoshop), image properties HL		What is it? Benefits, programming an AI, moral compass	Existing website research, website design (sitemaps and wireframing), source website assets, masterpage set up and folder structure creation, website creation (linking, testing and content editing), evaluation	
Disciplinary knowledge	Apply the fundamental principles and concepts of computer science Use search technologies effectively, be discerning in evaluating digital content	Apply the fundamental principles and concepts of computer science select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analysing, evaluating and presenting data		Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic & algorithms Design, write and debug programs that accomplish specific goals Use logical reasoning to find and correct errors in algorithms and programs.	Develop skills in planning and creating a digital product use technology safely, respectfully and responsibly Select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analyzing, evaluating and presenting data Use search technologies effectively, be discerning in evaluating digital content	

Assessment mapping (Quizizz every lesson)	Workbook End of unit test	Binary images spreadsheet Visualisation	Finished magazine cover End of unit test	Machine learning model and extended writing task End of unit test	Design documents	Final website End of unit test
Personal development mapping	12. Next phase of education- GCSE Computing 21.Social development – working in teams	12. Next phase of education- imedia 16. Creativity 21. Social development- peer support and feedback		12. Next phase of education – GCSE 21.Social development- peer support and feedback	12. Next phase of education – imedia 16. Creativity 21.Social development- peer support and feedback	
Disciplinary literacy	Reading information when researching Rephrasing explanations for key words or concepts learnt	Effective annotation in design	SPAG	Researching online Essay writing	Writing to persuade/advertise	Evaluation
Numeracy links	Binary to denary conversion relies on number columns, to the power of 10, 2, 16 – awareness of number systems other than denary	Inch to cm conversion. Data representation includes number conversion, binary to denary, colour depth - how many pixels in a 4-bit image.		Logical reasoning	Measurement, image quality related to resolution = pixel sizes. Resizing a frame = ratio and calculating to scale a frame up or down. Use of Hex numbers to choose a colour	
Cross-curricular links to other subjects	Maths- binary, number conversions and calculating	Maths- binary, number conversions and calculating Encourage student choice to pick up on subject specific topics. E.g. National Geographic. Art and DT use of Photoshop, creativity and designing skills		Maths – logic, PSHCE- links to ethical programming and use of ML. Moral machine and would you rather websites.	Music and English – Website topic is musical pop up shop. Persuasive and informative writing skills covered Music – what genre of music are these? How do you know? What images /text would help the reader know this?	
Careers	Link to IT industry	Link to Graphic design industry		Programmer and big data analysis	Link to web development industry	
Support for all *All lessons are on Classnotes and can be	Work on class notes, including objectives, relevant information/guides and keywords *	Step by step demos/videos, how to guides*, effective use of TAs and opportunities to practice the same skill set. Examples shown,		Step by step, how to guides*, effective use of TA. All lessons on class notes and paired programming	Step by step demos/videos, how to guides*, effective use of TAs and opportunities to practice the same skill set. Writing frames/templates and examples	

viewed using immersive reader	Writing frames also provided		writing frame for the moral discussion	
Challenge ideas	Either improving on work or challenging them to work out how to do something extra		Deeper thinking – getting them to think about how their data is used and what are the moral issues /pros & cons	Either improving on work or challenging them to work out how to do something extra

Year 9

	Overall curriculum intent for year 9: To build on students' prior knowledge and skills and provide a feel for both GCSE options to enable effective decision making at GCSE.				
	Half term 1	Half term 2	Half term 3	Half term 5	Half term 6
Intent for the half term	Develop and create a Game in game maker	Develop skill and understanding of programming constructs using a text-based programming language	Develop and use databases	Understand several key algorithms used in today's systems e.g. searching and sorting	Develop a more in depth understanding of how computers work, especially the CPU.
Content mapping	Game analysis, sprites and objects. Object orientated programming, programming constructs, testing and assessment	Output text and calculations, functions escapes, casting, comments, sequence, selection, loops, data structures, external file handling	What are databases, how are they structured? Forms, Queries and reports Relational databases.	Searches, sorts, pseudocode and flowcharts, algorithm efficiency	CPU, fetch decode execute, transistors, logic gates & circuits, software, network hardware and protocols, encryption, cyber security
Disciplinary knowledge	Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic & algorithms Design, write and debug programs that accomplish specific goals Use logical reasoning to find and correct errors in algorithms and programs.	Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic& algorithms Design, write and debug programs that accomplish specific goals Use logical reasoning to find and correct errors in algorithms and programs. Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	Use, interrogate and edit data in database software to accomplish given goals, including collecting, searching for, and presenting data	Solve problems by breaking them down into smaller parts. Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic, algorithms and data representation Design, write and debug programs that accomplish specific goals Use logical reasoning to explain how some simple algorithms work To find and correct errors in algorithms and programs.	Apply the fundamental principles and concepts of computer science Use technology safely, respectfully and responsibly

Assessment mapping (Quizizz every lesson)	Game analysis quizzes Finished game End of unit test	Evidence document End of unit test	Work book evidence End of unit test	Workbook End of unit test	Workbook – CPU Quizzes End of unit test
Personal development mapping	12. Next phase of education – GCSE 16. Creativity 21.Social development- peer support and feedback	12. Next phase of education GCSE Computing 16. Creativity 21.Social development- paired programming	12. Next phase of education – GCSE 21.Social development- peer support and feedback	12. Next phase of education – GCSE 21.Social development- peer support and feedback	1. Responsible, respectful and active citizens 7. Recognise online and offline risks 12. Next phase of education- GCSE Computing
Disciplinary literacy	Analysis Accuracy in text Evaluation	Writing effective code Accuracy in text	Writing to plan a query Running queries Recording information Reading and decoding instructions	Writing effective Pseudocode Dry running through the code (very close to proof reading)	Key vocabulary Effective note taking
Numeracy links	Logical reasoning, measurement and calculating sizes.	Use of integers in programming and data types. Calculation needed to check answers on programs written are correct. Logic reasoning used to detect errors on programming	Using comparison operators and numerical values. Data types	Logical reasoning	Binary calculation, Logical reasoning
Cross-curricular links to other subjects		Maths – logical reasoning Drama – Shakespearean insult generator	Maths, Science (criminal database looks at forensics)	Maths – binary	
Careers	Game developer	Link to programming careers	Police and IT career	Programming	IT career
Support for all *All lessons are on Classnotes or on the lesson posts	Step by step demos/videos, how to guides*, effective use of TA and opportunities to practice the same skill	Step by step how to guides*, opportunities to practice the same skill set. Tasks broken down, examples, paired programming	Step by step demos/videos, how to guides*, effective use of TA and opportunities to practice the same skill set.	Work on class notes, including objectives, relevant information/guides and keywords * Writing frames also provided and teacher support	

and can be viewed using immersive reader	set. Examples shown, all lessons on class notes		Examples shown, all lessons on class notes	
Challenge ideas	Extension tasks once the main game is made	Challenging them to work out how to do something extra or setting a difficult question	Relational databases extension task	Either improving on work or challenging them to work out how to do something extra For Search and sort algorithms, the challenge tasks are in the workbook- look at going into more advanced theory e.g. Quicksort and big O notation are A level topics.

Year 10 & 11 Computing

Overall curriculum intent for year 10 & 11: Introduce students to the central processing unit (CPU), computer memory and storage, wired and wireless networks, network topologies, system security and system software. We also look at ethical, legal, cultural and environmental concerns associated with computer science. Develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic, translators and data representation. Apply these skills, using python to produce a complex application to solve a given problem.					
	Half term 1	**Half term 2**	**Half term 3**	**Half term 4**	**Half term 5**
Intent for the half term	Cover theory for Unit 1 paper		Cover theory for Unit 2 paper and prepare for NEA	Complete NEA and Cover theory for Unit 2 paper	Cover theory for Unit 2 paper and prepare for the exams
Content mapping	CPU, von Neumann, embedded systems, storage, RAM&ROM, memory, data capacity, networks, network theory	Threats, software systems, issues, abstraction, decomposition, algorithmic thinking, search and sort algorithms,	Programming constructs, file handling, data structures, SQL, verification, validation, testing	NEA project Binary, logic circuits, low level programming, assemblers, compilers and interpreters, IDEs	Binary conversion, shift, hexadecimal, check digits, character sets, bitmaps, sound, compression Exam preparation
Disciplinary knowledge	apply the fundamental principles and concepts of computer science use search technologies effectively, be discerning in evaluating digital content	Solve problems by breaking them down into smaller parts. Apply the fundamental principles and concepts of computer science, including abstraction, sequence, selection and repetition, logic, algorithms and data representation Design, write and debug programs that accomplish specific goals Use logical reasoning to explain how some simple algorithms work To find and correct errors in algorithms and programs.			apply the fundamental principles and concepts of computer science use search technologies effectively, be discerning in evaluating digital content

Assessment mapping	End of topic test for each unit – about once a fortnight. Workbooks also checked and feedback given. Smart revise HL tracks their understanding, checked fortnightly. Cornell notes completed for each topic not marked BUT checked for understanding and completeness. NEA checked and feedback given.				
Personal development mapping	11. Careers 12. Next phase of education 21.Social development- peer support and feedback	7. Recognise online and offline risks 11. Careers 12. Next phase of education	11. Careers 12. Next phase of education 21.Social development- peer support and feedback	11. Careers 12. Next phase of education 21. Social development- peer support and feedback	11. Careers 12. Next phase of education 21. Social development- peer support and feedback
Disciplinary literacy	For each uinit: Reading to gain new information, effective note taking using Cornell notes system, writing to present information, reading and decoding meaning in text.				
Numeracy links	Calculation, logic, sequencing		Calculation, logic, conversion, sequencing, algebraic thinking		
Cross-curricular links to other subjects	Maths – see numeracy links Science – radio waves	Maths – see numeracy links	Maths – see numeracy links	Maths – see numeracy links Science- electricity & circuits	Maths – see numeracy links Science - sound
Careers	IT industry	Cyber security and programming industry	Programming industry	IT industry	IT industry
Support for all	Workbooks for each unit to aid organisation, are clearly set out. Clear guide to support NEA task. Teacher support, examples shown/modelled.				
Challenge ideas	Challenge tasks, set throughout the course, are an extension of the tasks done in lesson. E.g. in programming, they have a worked example, then given a task/some tasks with some guidance. Once they finish the set tasks. They get another that uses the same knowledge learnt, but it is harder and with no guidance.				

Year 10 & 11 Creative imedia

Overall curriculum intent for year 10 & 11: Students are introduced to a range of essential pre-production techniques used in the creative and digital media, including client brief, time frames, deadlines and preparation techniques. Students explore where and why digital graphics are used and the techniques that are involved in their creation. They apply their skills and knowledge in creating digital graphics against a specific brief. Students explore the different properties, purposes and features of multipage websites. They demonstrate their creativity by combining components to create a functional, intuitive and visually pleasing website. They will do the same again for one other imedia discipline I.e. games development or Photography. This is to be decided as a group, each year.

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5
Intent for the half term	Completion of R093 – creative imedia in the media industry	Completion of R094–Visual identity and digital graphics Completion of R093 – creative imedia in the media industry - prepare for Jan exam	Completion of R097 Interactive Digital Product	Completion of R097 Interactive Digital Product	Completion R097 and preparation for R093 exam
Content mapping	Sectors, products, job roles, purpose, client requirements, style, layout and content linked to purpose, audience, research methods, media codes, preproduction documents, legal, file properties and formats	Completion of NEA – develop visual identity, plan digital graphics, create a visual identity Revision and exam preparation for the exam	Skill up in rocket cake, wick editor, video editor and ppt. Cover theory for Interactive Digital Product =Format types, content, features, hardware, planning, asset sourcing and creation of assets and the final IDP	Completion of NEA – planning, creating, testing and reviewing the IDP	Test and evaluate IDP Exam revision and preparation for resit R093 – creative imedia in the media industry
Disciplinary knowledge	Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems Use technology safely, respectfully and responsibly Select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analysing, evaluating and presenting data Use search technologies effectively, be discerning in evaluating digital content				
Assessment mapping	Fortnight check-ins on coursework/exam theory progress				Fortnight check-ins on coursework progress and mock exam
Personal development mapping	11. Careers 16. Creativity 21. Social development- peer support and feedback	11. Careers 15. Sense of enjoyment 16. Creativity	11. Careers 15. Sense of enjoyment 16. Creativity	11. Careers 15. Sense of enjoyment 16. Creativity	11. Careers 21. Social development- peer support and feedback

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		21. Social development- peer support and feedback	21. Social development- peer support and feedback	21. Social development- peer support and feedback	
Disciplinary literacy	Reading and decoding text re-present learning effectively. Analysing text and decoding exam questions	Analyse and decode client brief Justifying design decisions	Analyse and decode client brief Justifying design decisions Writing content for IDP	As before	Decoding exam questions Structuring higher value answers e.g. 12 mark review question
Numeracy links	File types and compression Image properties	File types and compression Image properties Scale, ratio	File types and compression Image properties Scale, ratio	File types and compression Image properties Scale, ratio	-
Cross-curricular links to other subjects	DT- flowcharts, workplans Drama-storyboards and scripts, some industry job roles also Business – research methods, legal and audience English – language and tone	Art, DT – digital graphics and visual identity	English – writing to persuade, planning writing. Art, DT – planning a creative product, project management	As before	English – structuring long exam questions
Careers	Link to all imedia based industries	Link to Graphic design industry	Link to Graphic design, IDP and web development industry	Link to Graphic design, IDP and web development industry	Link to all digital production industries
Support for all	Step by step guides, teacher support, examples, guidebook for each unit and tasks broken up				
Challenge ideas	Self-assessment sheet for each unit – what do you need to do for the top mark bands? How can you do that? Encourage to try experimenting independent learning of additional skills.				

Yr 10 & 11 KS4 Computing core

Provision:

	10	11
Intent for the rotation	To develop IT skills, especially in data manipulation	To build up their Digital literacy and Computing
Content mapping	Spreadsheets and databases: How to enter data, data validation, use of formulas to make calculations, Crating charts and graphs to analyse data. Forms, Queries and reports	Threats, software systems, algorithmic thinking, Programming constructs, file handling, data structures, SQL, verification, validation, testing, networks, AI, Digital literacy
Disciplinary knowledge	Use, interrogate and edit data in database software to accomplish given goals, including collecting, searching for,and presenting data	apply the fundamental principles and concepts of computer science use search technologies effectively, be discerning in evaluating digital content
Assessment mapping	Work book evidence	IDEA badges completed
Personal development mapping	12. Next phase of education – GCSE 21.Social development- peer support and feedback	7. Recognise online and offline risks 11. Careers 12. Next phase of education 21.Social development- peer support and feedback
Disciplinary literacy	Labels to display data, Analysing data Writing to plan a query Running queries Recording information Reading and decoding instructions	Reading to gain new information, reading and decoding meaning in text
Numeracy links	Using comparison operators and numerical values. Data types	Calculation, logic, conversion, sequencing, algebraic thinking
Cross-curricular links to other subjects	Maths, Science (criminal database looks at forensics)	Maths – see numeracy links
Careers	Police and IT career	IT, Cyber security and programming industry
Support for all	Step by step demos/videos, how to guides*, effective use of TA and opportunities to practice the same skill set. Examples shown, all lessons on class notes	Teacher support, clear instructions on IDEA website
Challenge ideas	Relational database and Charts analysis extension tasks	Complete the Gold Badges

Year 12

Overall curriculum intent for year 12: Students will gain the right combination of knowledge, understanding and skills required for the 21st century, enabling them to demonstrate the skills of writing specifications, and the design, build, testing and implementation of applications. They will develop a solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how businesses use IT. Students will have a greater understanding of how organisations use information sources both internally and externally and the types of information they will encounter. The skills gained by completing this unit will give them knowledge of the functionality of information and how data is stored and processed by organisations. They will also learn about how individuals use information of various types.

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Intent for the half term	Induction Prepare for Unit 1 exam	Prepare for Unit 1 exam	Learn Phases of development lifecycle Application development models	Learn Constraints, website components and cyber security	Prepare for resit if needed Website research	Website design
Content mapping	1.Understand computer hardware 2.Understand computer software 3.Understand business IT systems	4. Understand employability and communication skills used in an IT environment 5.Understand ethical and operational issues and threats to computer systems	Requirements analysis, design, coding/ implementation, testing, deployment, maintenance, comparison of development models	Constraints upon product development, website components, security risks, threats and prevention, market analysis	Case study and revise all of unit 2 Market analysis, user interview and analysis	Design brief analysis, functional requirements, target user profile, constraints and limitations, feasibility study, site maps, DFDs
Disciplinary knowledge	apply the fundamental principles and concepts of computer science use search technologies effectively, be discerning in evaluating digital content Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems Use technology safely, respectfully and responsibly Select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analysing, evaluating and presenting data Use search technologies effectively, be discerning in evaluating digital content					
Assessment mapping	Unit 1 section 1,2 &3 test	Unit 1, sections 4&5 test, Case study and Mock exams	Report on phases of development lifecycle and Comparison of development models	Constraints report Website Components writeup Cyber security writeup	Mock exam Research analysis	Research analysis Specification documents and design documents

Personal development mapping	11. Careers 12. Next phase of education 1. Responsible, respectful and active citizens 7. Recognise online and offline risks		11. Careers 12. Next phase of education	1. Responsible, respectful and active citizens 7. Recognise online and offline risks 11. Careers 12. Next phase of education	11. Careers 12. Next phase of education	2. equality of opportunity 11. Careers 12. Next phase of education
Disciplinary literacy	Reading and decoding text for research Re-presenting information learnt. Decoding exam questions and structuring effective answers		Analysis Decoding design brief and analysing it. Reading and decoding text for research Re-presenting information learnt. Identifying and listing user and client requirements Justifying design choices			
Numeracy links	Binary and Hexadecimal Storage capacity				Binary and Hexadecimal Storage capacity	
Cross-curricular links to other subjects	Business – events ticket booking website		DT –links to the product lifecycle			Business – what do they need to be successful as a business? DT – design lifecycle
Careers	Careers in IT – IT Technician, programmer, any career in IT		Careers in IT –web development, project development and app development Mr Wilcock to visit and be involved via email as the client		Careers in IT – data scientist/analyst	Careers in IT – data scientist/analyst, web development, project development and app development
Support for all	Workbook breaks the topics down, online resources on Teams site, teacher support		In class support, clear guide to support tasks set, teacher support		Workbook breaks the topics down, online resources on Teams site, teacher support	
Challenge ideas	Deeper reading into topics for the unit 1 exam	Deeper reading into topics for the unit 1 exam	Deeper reading and application on topics covered	Deeper reading and application on topics covered	Deeper reading into topics for the unit 1 exam	Deeper reading and application on topics covered

Overall curriculum intent for year 13: Students will gain the right combination of knowledge, understanding and skills required for the 21st century, enabling them to demonstrate the skills of writing specifications, and the design, build, testing and implementation of applications. They will develop a solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how businesses use IT. Students will have a greater understanding of how organisations use information sources both internally and externally and the types of information they will encounter. The skills gained by completing this unit will give them knowledge of the functionality of information and how data is stored and processed by organisations. They will also learn about how individuals use information of various types.

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5
Intent for the half term	Complete the website prototype and accompanying evidence Prepare for Unit 2 exam	Prepare for Unit 2 exam	Agree website designs with client Adapt website designs and create prototype website	Create, test and present prototype website Final meeting with client	Prepare for resit of unit 2
Content mapping	Web development, testing, client presentation Unit 2 exam - Understand where information is held globally and how it is transmitted	Understand: styles, classification and the management of global information; the use of global information and the benefits to individuals and organisations; the legal and regulatory framework governing the storage and use of global information; the process flow of information Case study	Email dialogue to determine changes and agree on acceptance test plan, testing tables, website prototype creation	Complete prototype, unit, product, implementation, acceptance and immersion testing. security and maintenance	All of unit 2 topics and case study preparation
Disciplinary knowledge	apply the fundamental principles and concepts of computer science use search technologies effectively, be discerning in evaluating digital content Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems Use technology safely, respectfully and responsibly Select, use and combine software on a range of digital devices to create digital products, that accomplish given goals, including collecting, analysing, evaluating and presenting data Use search technologies effectively, be discerning in evaluating digital content				
Assessment mapping	Final website and updated report Unit 2 section 1 test	Unit 2, sections 2-6 test Case study And Mock exam	Evidence of dialogue Acceptance testing plan	Final website Test plans, test report, final formal report, security and	Case study and mock exam

				maintenance report and final meeting evidence	
Personal development mapping	2. Equality of opportunity 11. Careers 12. Next phase of education	1. Responsible, respectful and active citizens 7. Recognise online and offline risks	11. Careers 12. Next phase of education	1. Responsible, respectful and active citizens 7. Recognise online and offline risks 11. Careers 12. Next phase of education	11. Careers 12. Next phase of education
Disciplinary literacy	Reading and decoding text for research Re-presenting information learnt. Decoding exam questions and structuring effective answers Researching case studies – decoding the study and selecting relevant information		Email structure and etiquette Writing test plans	Completing test plans Presentation to client Evaluating and reviewing	
Numeracy links	Measurement, ratio	Data collection	Measurement, ratio	Measurement, ratio	Data collection
Cross-curricular links to other subjects	Business – events ticket booking website		Business – events ticket booking website- target audience, what they want to see, legal obligations etc.		
Careers	Careers in IT – data scientist/analyst	Careers in IT – data scientist/analyst, web development, project development and app development			Careers in IT – data scientist/analyst
Support for all	Workbook breaks the topics down, online resources on Teams site, teacher support		In class support, clear guide to support tasks set, teacher support		Workbook breaks the topics down, online resources on Teams site, teacher support
Challenge ideas	Deeper reading into topics for the unit 2 exam	Deeper reading into topics for the unit 2 exam In depth research for the Case study	Consider front end and back end element – can you add a back-end data base to the site?	Ask for detail in analysis, drawing clear conclusions and steps forward	Deeper reading into topics for the unit 2 exam In depth research for the Case study

NB:
Year 12 and 13 both do the same exam unit (unit 1 or 2) then we switch to the alternate unit the following year

Unit 1 plans are below:

Intent for the half term	Prepare for the unit 1 exam

Content mapping	fundamentals of hardware, networks, software, the ethical use of computers and how businesses use IT.
Assessment mapping	Sections 1 to 5 in the work book marked once a fortnight and end of topic tests and mock exams
Personal development mapping	11. Careers 12. Next phase of education 1. Responsible, respectful and active citizens 7. Recognise online and offline risks
Literacy focus for the half term	Grammar & vocabulary Case study answers, structure and writing to justify/discuss/evaluate
Numeracy links	Calculation, binary, Hexadecimal, storage capacity
Cross-curricular links to other subjects	
Careers	Career in IT- all areas
Support for all	Workbook breaks the topics down, online resources on Teams site, teacher support
Challenge ideas	Deeper reading into topics for the unit 1 exam