

# 3. FIVE YEAR CURRICULUM PLAN

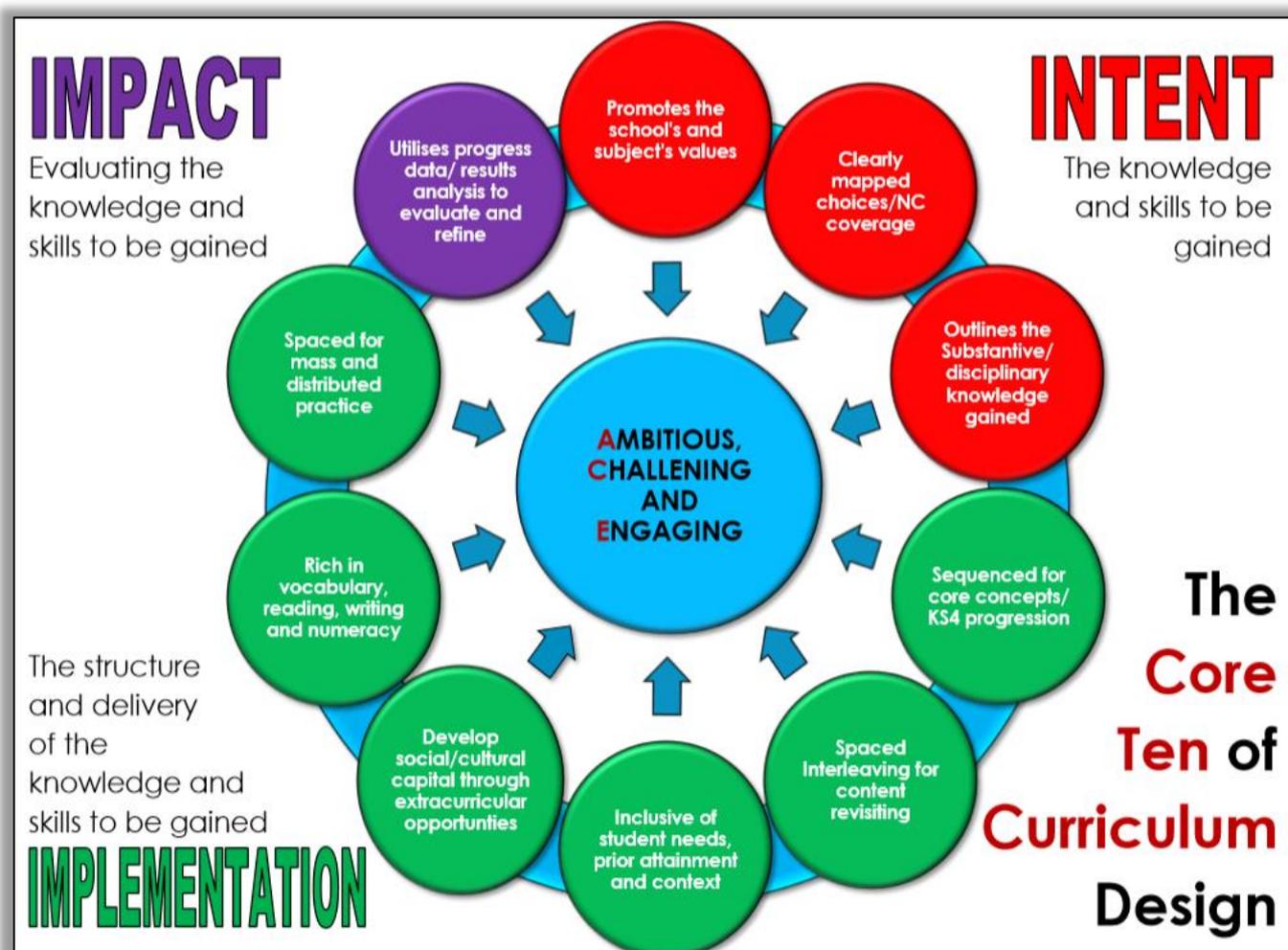
## Key Stage 3 and 4

Subject: CS/ iMedia

Author: ACR

Created:12.10.20

Updated: /



Document(s) which inform this Five Year Curriculum Plan are:

1. Curriculum Intent Overview Plan (KS3 & KS4)
2. Curriculum Implementation Overview (KS3 & KS4)

## KS3 – Year 7 Year Plan

### Intent

Aims:	<p>To ensure that all pupils:</p> <p>Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</p> <p>Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</p> <p>Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</p> <p>Are responsible, competent, confident and creative users of information and communication technology.</p> <p>Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology</p> <p>Become digitally literate in order to become active participants in a digital society and workplace.</p> <p>To make informed pathway and career choices.</p>			
Academy values:	<p>Brave: Empower pupils to become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology.</p> <p>Ambitious: Delivery of challenging concepts and ideas.</p> <p>Kind to become digitally literate in order to become active participants in a digital society and workplace.</p>			
Units of Study:				
Unit/Topic 1	Content:	<p>Unit: Introduction to ICT</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Emails</li> <li>2. Presentation Skills</li> <li>3. E Safety</li> <li>4. British Values</li> </ol>	NC Content:	<p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p> <p>Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.</p>
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This	Powerful Knowledge:	How to send an email effectively.

		helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.		How to stay safe online in relation to their age.
Unit/Topic 2	Content:	Unit: Modelling Data  Topics 1. Spreadsheet Basics 2. Spreadsheet Calculations 3. Collecting Data 4. Data Analysis	NC Content:	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.	Powerful Knowledge:	Use of the office package.  Data Interpretation.
Unit/Topic 3	Content:	Unit: Networks  Topics: 1. Networks and Protocols 2. Hardware and Software 3. Wired / Wireless networks 4. The internet	NC Content:	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge	Powerful Knowledge:	To know the difference between hardware and software and their uses.

		to succeed in other areas of the Academy e.g. coursework based subjects.		
Unit/Topic 4	Content:	Unit: Programming  Topics: 1. Animation and Movement 2. Game Basics 3. Graphics 4. Variables	NC Content:	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.	Powerful Knowledge:	How to program / Concepts of programming  Abstraction and Decomposition.
Unit/Topic 5	Content:	Unit: Programming  Topics: 1. IF function 2. Boolean Logic 3. Broadcasting 4. Lists	NC Content:	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions  understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This	Powerful Knowledge:	How to program / Concepts of programming

		helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.		Abstraction and Decomposition.
Unit / Topic 6	Content:	Unit: Representation  Topics: 1. Types of representation 2. Encoding / decoding 3. Binary	Content:	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]  understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits
	Key Concepts:	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.	Key Concepts:	How data is stored.
<b>Implementation</b>				
Progression from KS2:	Practice at feeder primary schools can differ greatly meaning pupils can enter KS3 with a wide variety of prior understanding. Most have office basics some have done basic coding. Base line test to check prior attainment.  Liaise and support feeder schools to develop pupil / staff knowledge of computer science. This will identify future areas of focus and create an even level of prior knowledge.			
Progression to Year 8:	How to use office in order to support learning in Computer science and other subjects. How to stay safe when using computers at home and in school. Basics of computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages.			

Spaced Interleaving:	Based on a 3 year development plan building up skills and topics and skills are repeated each year. Mixture of ICT and Computing skills. Office package comes first to develop key skills and support other subjects. Gradual increase in difficulty of topics to increase enjoyment, engagement and challenge.			
Student Needs:	SEND:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Lower tier will support pupils with less prior knowledge or developing maths skills. Levelled masterslide with clear outcomes. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Group setting committee to decide setting of groups.</p> <p>Applying whole school practices of:  Staff SEN champion  Teach around the student meeting.  Differentiated and accessible work  Small chunked up elements  Visual clues/dual coding  Introduction of new vocabulary using visual imagery and/or etymology</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females.</p>

		<p>Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio</p> <p>Students in a varied mix of groupings- 1:1/pairs/small gps and whole class</p> <p>Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc</p> <p>Efforts are always rewarded- verbally and through system</p> <p>Learning is revisited for consolidation</p> <p>Learning is exciting/competitive where possible</p> <p>QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	LPA:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at and early stage.</p>	HPA:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at and early stage.</p>
Extracurricular:	<p>Term 1 Example</p> <p>Master slide links each lesson to relevant careers for example teacher.</p>			

	<p>Providing students with essential workplace skills for example the tuition of correct email etiquette and procedure</p> <p>Weekly Coding Club – minecraft club for engagement and relationships.</p>			
<p>Literacy/Numeracy:</p>	<p>Vocab (tier 2/3):</p>	<p>Term 1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example attachment, functions.</p> <p>Key terms on master slide throughout</p>	<p>Reading:</p>	<p>Term 1 Example</p> <p>Read briefs, case studies, tasks. for example create a Powerpoint on British Values.</p> <p>Reading / writing is a professional, customer focused tone for example composing an email.</p> <p>Eedi tests to check understanding of key terms and highlight misconceptions.</p> <p>Development of understanding key exam command words for example compare, define, describe, discuss, explain, extend, justify.</p>
	<p>Writing:</p>	<p>Term 1 Example</p> <p>Reading / writing is a professional, customer focused tone for example composing an email.</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals.</p>	<p>Numeracy:</p>	<p>Term 1 Example</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p>

		Digital writing skills in Office and Outlook support other subjects.		
Practice:	Mass:	<p>Term 1 Example</p> <p>Measuring and Converting Units: Converting between binary, hex and decimal.</p> <p>Cyber Security: Cyber threats and online protection.</p> <p>Primary and Secondary Data: Types, uses and selection.</p>	Distributed:	<p>Term 1 Example</p> <p>DNA –Beberas – promotes logical thinking skills, identify setting. Reinforce and develop on prior knowledge.</p> <p>Representation revisits and builds upon knowledge gained in Year 7 term 5 representation project.</p> <p>Cyber Security revisits and builds upon knowledge gained in Year 7 Term 1 Introduction to ICT.</p>

## KS3 – Year 8 Year Plan

### Intent

Aims:	<p>To ensure that all pupils:</p> <ul style="list-style-type: none"> <li>Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>Are responsible, competent, confident and creative users of information and communication technology.</li> <li>Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology</li> <li>Become digitally literate in order to become active participants in a digital society and workplace.</li> <li>To make informed pathway and career choices.</li> </ul>
Academy values:	<p>Brave: Empower pupils to become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology.</p> <p>Ambitious: Delivery of challenging concepts and ideas.</p>

Kind to become digitally literate in order to become active participants in a digital society and workplace.

Units of Study:

Unit/Topic 1	Content:	<p>Unit: Representation</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Measuring and Converting Units</li> <li>2. Binary</li> </ol> <p>Unit: Cyber Security</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Cyber Security</li> <li>2. Primary and Secondary Data</li> </ol>	NC Content:	<p>understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]</p> <p>understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits</p> <p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p> <p>create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability □ understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct</p>
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>How data is stored.</p> <p>How to stay safe online in relation to their age.</p>
Unit/Topic 2	Content:	<p>Unit: Cyber Security</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Gathering Data</li> <li>2. Analysing Data</li> <li>3. Testing</li> </ol>	NC Content:	<p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p> <p>create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p> <p>understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise</p>

				inappropriate content, contact and conduct and know how to report concerns
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	How to stay safe online in relation to their age.
Unit/Topic 3	Content:	<p>Unit: Programming</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Input / Output</li> <li>2. Variables</li> <li>3. Operators</li> <li>4. Data Types</li> <li>5. IF statements</li> </ol>	NC Content:	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition</p>
Unit/Topic 4	Content:	<p>Unit: Programming</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Loops</li> <li>2. Arrays</li> </ol> <p>Unit: Web Design</p>	NC Content:	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions

		<p>Topics:</p> <ol style="list-style-type: none"> <li>1. HTML</li> <li>2. Structuring Webpages</li> <li>3. Navigation</li> </ol>		
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>
Unit/Topic 5	Content:	<p>Unit: Web Design</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Banners</li> <li>2. Animation</li> <li>3. Sorts</li> </ol>	NC Content:	<p>undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users</p> <p>create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</p>
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	Use of the office package.
Unit / Topic 6	Content:	<p>Unit: Hardware / Software</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Word Processing</li> </ol>	NC Content:	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems

		<ul style="list-style-type: none"> <li>2. Ethics</li> <li>3. House style</li> <li>4. Impacts of Technology</li> </ul>		<p>design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</p> <p>design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</p>
	Key Concepts:	<p>Online safety, Being able to program in 2 computer languages by applying key concepts. How to successfully create a web page based on a customer brief.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>Use of the office package.</p> <p>To know the difference between hardware and software and their uses.</p>

## Implementation

Progression from Year 7:	How to use office in order to support learning in Computer science and other subjects. How to stay safe when using computers at home and in school. Basics of computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages.			
Progression to Year 9:	How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages.			
Spaced Interleaving:	<p>Representation (T1) revisits and builds upon learning from T6 of Year 7.</p> <p>Cyber security (T1/2) revisits and builds upon learning from Year 7 T1eSafety unit.</p> <p>Programming (T3/4) revisits and builds upon learning from Year 7 T4/5 programming.</p> <p>Web design (T5) builds upon Year 7 T1 Office skills.</p> <p>Hardware / Software (T6) builds upon Year 7 T3 networks.</p>			
Student Needs:	SEND:	Beberas DNA tasks are tiered based on ability and get progressively harder. Lower tier will support pupils with less prior knowledge or developing maths skills.	Context	Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans.

Levelled masterslide with clear outcomes.  
Eedi test identify misconception and trends for teacher to address with SEN. Seating plans.  
Differentiation in tasks.  
Individual support based on individual pupils needs.  
Sequencing supports development of core skills at the start.

Applying whole school practices of:  
Staff SEN champion  
Teach around the student meeting.  
Differentiated and accessible work  
Small chunked up elements  
Visual clues/dual coding  
Introduction of new vocabulary using visual imagery and/or etymology  
Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio  
Students in a varied mix of groupings- 1:1/pairs/small gps and whole class  
Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc

Expteral speakers could be female role models.  
Ensure that case studies / tasks represent all particularly females.

		Efforts are always rewarded-verbally and through system Learning is revisited for consolidation Learning is exciting/competitive where possible QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed		
	LPA:	Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at an early stage.	HPA:	Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at an early stage.
Extracurricular:	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers for example Systems analyst.</p> <p>Bolstering core maths skills and using differing approaches to maths problems</p> <p>Weekly Coding Club – minecraft club for engagement and relationships.</p>			
Literacy/Numeracy:	Vocab (tier 2/3):	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example binary, decimal, conversion.</p> <p>Key terms on master slide throughout.</p>	Reading:	<p>T1 Example</p> <p>Read briefs, case studies, and tasks for example news stories on cyber-attacks.</p> <p>Reading / writing is a professional, customer focused tone for example writing a questionnaire.</p>

		Revisiting key vocabulary from year 7 and building upon it.		Eedi tests to check understanding of key terms and highlight misconceptions.  Development of understanding key exam command words. For example compare, define, describe, Develop, discuss, explain, extend, justify.
	Writing:	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone for example writing a questionnaire.</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals.</p> <p>Digital writing skills in Office and Outlook support other subjects.</p>	Numeracy:	<p>T1 Example</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p> <p>Binary maths skills; addition and subtraction etc.</p> <p>Representation and substitution.</p> <p>Binary conversion</p>
Practice:	Mass:	<p>T1 Example</p> <p>Measuring and Converting Units: Converting between binary, hex and decimal.</p> <p>Cyber Security: Cyber threats and online protection.</p>	Distributed:	<p>T1 Example</p> <p>DNA –Beberas – promotes logical thinking skills, identify setting. Reinforce and develop on prior knowledge.</p> <p>Representation revisits and builds upon knowledge gained in Year 7 term 5 representation project.</p>

Primary and Secondary Data: Types, uses and selection.

Cyber Security revisits and builds upon knowledge gained in Year 7 Term 1 Introduction to ICT.

## KS3 – Year 9 Year Plan

### Intent

<p>Aims:</p>	<p>To ensure that all pupils:</p> <ul style="list-style-type: none"> <li>Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>Are responsible, competent, confident and creative users of information and communication technology.</li> <li>Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology</li> <li>Become digitally literate in order to become active participants in a digital society and workplace.</li> <li>To make informed pathway and career choices.</li> </ul>
--------------	---

<p>Academy values:</p>	<p>Brave: Empower pupils to become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology.</p> <p>Ambitious: Delivery of challenging concepts and ideas.</p> <p>Kind to become digitally literate in order to become active participants in a digital society and workplace.</p>
------------------------	--

### Units of Study:

<p>Unit/Topic 1</p>	<p>Content:</p>	<p>Unit: Problem Solving in Python</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Programming basics</li> <li>2. Inputs</li> <li>3. Variables and Operators</li> <li>4. Iteration</li> <li>5. Data Structure</li> </ol>	<p>NC Content:</p>	<p>use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions</p>
---------------------	-----------------	---	--------------------	--

		6. Subroutines		
	Key Concepts:	<p>Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>
Unit/Topic 2	Content:	<p>Unit: Binary</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. What is Binary</li> <li>2. Binary maths</li> <li>3. Binary conversion</li> <li>4. Sound representation</li> </ol> <p>Representing Images</p>	NC Content:	<p>understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]</p> <p>understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits</p>
	Key Concepts:	<p>Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	How data is stored.
Unit/Topic 3	Content:	<p>Unit: Logic Gates</p> <ol style="list-style-type: none"> <li>1. Boolean Logic</li> <li>2. Boolean Circuits</li> </ol>	NC Content:	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for

		<p>Topics:</p> <p>Unit: Algorithms</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Decomposition</li> <li>2. Abstraction</li> <li>3. Pseudo Code</li> </ol>		<p>example, binary addition, and conversion between binary and decimal]</p> <p>understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem</p>
	Key Concepts:	<p>Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>
Unit/Topic 4	Content:	<p>Unit: Ethics</p> <p>Topics:</p> <ol style="list-style-type: none"> <li>1. Privacy</li> <li>2. Legislation</li> <li>3. Environmental issues</li> <li>4. Legal issues</li> <li>5. Social Impacts</li> </ol>	NC Content:	<p>understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns</p>
	Key Concepts:	<p>Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.</p>	Powerful Knowledge:	<p>How to stay safe online in relation to their age.</p>

		All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.		
Unit/Topic 5	Content:	Unit: Digital Graphics  Topics: <ol style="list-style-type: none"> <li>1. Software Skills</li> <li>2. Purpose of Graphics</li> <li>3. Legal Issues</li> </ol>	NC Content:	understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.  Understand the purpose and properties of digital images.  Plan the creation of digital graphic
	Key Concepts:	Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.  All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.	Powerful Knowledge:	How to use creative software.
Unit / Topic 6	Content:	Unit: Systems  Topics: <ol style="list-style-type: none"> <li>1. CPU</li> <li>2. Storage</li> <li>3. Memory</li> <li>4. Input and output devices</li> <li>5. Networks</li> <li>6. Networks 2</li> </ol>	NC Content:	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems  design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems  understand how instructions are stored and executed within a computer system

	Key Concepts:	<p>Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions. ICT ethics Graphics design.</p> <p>All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.</p>	Powerful Knowledge:	<p>The constituent parts of a computer system.</p> <p>Hardware / software.</p>

## Implementation

Progression from Year 8	How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages.			
Progression to Year 10:	<p>Being able to program in 2 computer languages by applying key concepts How to stay safe online</p> <p>More advanced computational thinking with developing skills in logic games, abstraction and decomposition Difference between and exposure to CS and iMedia strands to make informed choices.</p>			
Spaced Interleaving:	<p>Problem solving in Python (T1) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&amp;5 Programming Binary (T2) revisits and builds upon Year 8 T1 Representation and Year 7 T6 representation. Logic Gates (T3) revisits and builds upon Year 7 T5 Boolean logic. Algorithms (T3) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&amp;5 Programming Ethics (T4) revisits and builds upon Year 8 T2 Ethics and Year 7 T1 ESafety. Digital Graphics (T5) revisits and builds upon Year 8 T5 Webdesign. Fundamentals of Algorithms (T6) revisits and builds upon Year 9 T3 Algorithms Year 8 T3/4 Programming and Year 7 T4&amp;5 Programming</p>			
Student Needs:	SEND:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Lower tier will support pupils with less prior knowledge or developing maths skills. Levelled masterslide with clear outcomes.</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. External speakers could be female role models.</p>

Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start.

Applying whole school practices of:  
Staff SEN champion  
Teach around the student meeting.  
Differentiated and accessible work  
Small chunked up elements  
Visual clues/dual coding  
Introduction of new vocabulary using visual imagery and/or etymology  
Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio  
Students in a varied mix of groupings- 1:1/pairs/small gps and whole class  
Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc  
Efforts are always rewarded- verbally and through system

Ensure that case studies / tasks represent all particularly females.

		<p>Learning is revisited for consolidation</p> <p>Learning is exciting/competitive where possible</p> <p>QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	LPA:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at an early stage.</p>	HPA:	<p>Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills. Introduction of difficult computing concepts at an early stage.</p>
Extracurricular:	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers.</p> <p>Continued development of abstraction and decomposition fosters organisation</p> <p>Weekly Coding Club – teen tech competition – music, media and entertainment, hopefully increase female uptake.</p>			
Literacy/Numeracy:	Vocab (tier 2/3):	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries, for example input, output, variable.</p> <p>Key terms on master slide throughout.</p> <p>Revisiting key vocabulary from year 7/8 and building upon it.</p>	Reading:	<p>T1 Example</p> <p>Read briefs, case studies, tasks for example reading a detailed client brief.</p> <p>Reading / writing is a professional, customer focused tone. For example writing code using correct programming etiquette (grammar).</p> <p>Eedi tests to check understanding of key terms and highlight misconceptions.</p>

		<p>Focus on developing pupils understanding of GCSE exam command words. for example calculate, compare, define, describe, Develop, discuss, draw, explain, extend, justify, convert.</p>		<p>Development of understanding key exam command words.</p>
	<p>Writing:</p>	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone. For example writing code using correct programming etiquette (grammar).</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals.</p> <p>Digital writing skills in Office and Outlook support other subjects.</p>	<p>Numeracy:</p>	<p>T1 Example</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p> <p>Use maths operators e.g. add multiply subtract and division in Python Syntax.</p>
<p>Practice:</p>	<p>Mass:</p>	<p>T1 Example</p> <p>Inputs: Text based programming.</p>	<p>Distributed:</p>	<p>T1 Example</p> <p>DNA –Beberas – promotes logical thinking skills, identify setting. Reinforce and develop on prior knowledge.</p>

		<p>Variables and Operators: Types, uses and selection.</p> <p>Iteration: Loops and repetition.</p> <p>Data Structure: Lists and arrays.</p> <p>Subroutines: Definition and creation. Of subroutines.</p>		<p>Problem solving in Python (T1) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&amp;5 Programming.</p>
--	--	--	--	---

## KS4 – Year 10 Year Plan (Computer Science)

### Intent

<p>Aims:</p>	<p>The aims for computer science at Landau Forte are to ensure that all pupils:</p> <ul style="list-style-type: none"> <li>• Have strong academic results that allows them to pursue careers in computer science or others fields where the skills learned are able to set them apart from other candidates.</li> <li>• Can understand and apply the fundamental principles and concepts of abstraction, logic, algorithms and data representation.</li> <li>• Pupils can use the knowledge they have acquired to write code in the Python computing language order to solve such problems and use the transferrable / fundamental skills / concepts needed to be able to code in any computing language.</li> <li>• Can analyse complex real world problems in computational terms, by applying knowledge using familiar, unfamiliar or new technologies,</li> <li>• Leave the Academy as responsible, competent, confident and creative users of information and communication technology.</li> <li>•</li> </ul>
<p>Academy values:</p>	<p><b>Ambitious:</b> The course aims to create the next generation of computer scientists that are able to solve complex real world problems in any computer language by applying the key concepts and skills they have gained. The course is delivered with a high level of challenge to engage the most able of pupils. To develop the problem solving skills that will allow pupils to code in any language by applying the principled that have been learnt.</p> <p><b>Brave:</b></p>

	<p>Learners are challenged to use a programming language to meet user requirements and step out of their comfort zone by developing skills that they may need in later life.</p> <p><b>Kind:</b> The course is encourages pupils to consider the needs of other and consider the legal, social, environmental and ethical aspects of ICT and supporting technology usage.</p>
--	---

Units of Study:				
-----------------	--	--	--	--

Unit/Topic 1	Content:	<p>Unit: Fundamentals of algorithms</p> <p>Topics: Decomposition Abstraction Flow Charts Pseudo code</p>	Spec Content:	<p>3.1.1 Representing algorithms 3.1.2 Efficiency of algorithms 3.1.3 Searching algorithms 3.1.4 Sorting algorithms</p>
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages. Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs Think creatively, innovatively, analytically, logically and critically Understand the components that make up digital systems, and how they communicate with one another and with other systems</p>	Powerful Knowledge:	<p>How to program / Concepts of programming  Abstraction and Decomposition.</p>

		Understand the impacts of digital technology to the individual and to wider society Apply maths skills relevant to computer science.		
Unit/Topic 2	Content:	<p style="text-align: center;">Unit: Programming</p> <p style="text-align: center;">Topics: Basics of Programming Iteration Repetition Functions Arrays Files Dictionaries Robust Programming</p>	Spec Content:	<p style="text-align: center;">3.2.1 Data types 3.2.2 Programming concepts 3.2.3 Arithmetic operations in a programming language 3.2.4 Relational operations in a programming language 3.2.5 Boolean operations in a programming language 3.2.6 Data structures 3.2.7 Input/output and file handling 3.2.8 String handling operations in a programming language 3.2.9 Random number generation in a programming language 3.2.10 Structured programming and Subroutines (procedures and functions) 3.2.11 Robust and secure programming</p>
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages. Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>

		<p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>		
Unit/Topic 3	Content:	<p>Unit: Data Representation</p> <p>Topics: Number Bases Conversion Units Binary Arithmetic Representing Images Representing Sounds Data Compression</p>	Spec Content:	<p>3.3.1 Number bases</p> <p>3.3.2 Converting between number bases</p> <p>3.3.3 Units of information</p> <p>3.3.4 Binary arithmetic</p> <p>3.3.5 Character encoding</p> <p>3.3.6 Representing images</p> <p>3.3.7 Representing sound</p> <p>3.3.8 Data compression</p>
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p>	Powerful Knowledge:	How data is stored.

		<p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>		
Unit/Topic 4	Content:	<p>Unit: Computer Systems</p> <p>Topics: Hardware / Software Boolean Logic Systems architecture</p>	Spec Content:	<p>3.4.1 Hardware and software</p> <p>3.4.2 Boolean logic</p> <p>3.4.3 Software classification</p> <p>3.4.4 Classification of languages and translators</p> <p>3.4.5 Systems architecture</p>
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages. Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p>	Powerful Knowledge:	<p>Use of the office package.</p> <p>To know the difference between hardware and software and their uses.</p>

		<p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>		
Unit/Topic 5	Content:	<p>Unit: Networks</p> <p>Topics: Wired / Wireless LANS Security Protocols Cyber Security</p>	Spec Content:	3.5 Fundamentals of computer networks
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages. Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p>	Powerful Knowledge:	To know the properties of different networks and their uses.

		Apply maths skills relevant to computer science.		
Unit / Topic 6	Content:	<p>Unit: Impact of Technology</p> <p>Topics: Ethical Legal Environmental Society</p> <p>Privacy</p>	Spec Content:	<p>3.6.1 fundamentals of Cyber security 3.6.2 Cyber security threats 3.6.3 Methods to detect and prevent cyber security threats 3.7 relational databases and structured query language (SQL) 3.7.1 relational databases 3.7.2 SQL 3.8 Ethical, legal and environmental impacts of digital technology on wider society, including issues of</p>
	Key Concepts:	<p>Concept of computational thinking and programming literacy. Ability to transfer these skills between topics and languages. Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs Think creatively, innovatively, analytically, logically and critically Understand the components that make up digital systems, and how they communicate with one another and with other systems Understand the impacts of digital technology to the individual and to wider society Apply maths skills relevant to computer science.</p>	Powerful Knowledge:	<p>How to stay safe online in relation to their age.</p> <p>How to use relational database, how to use SQL to retrieve data efficiently</p> <p>Consider Ethical, Legal, Environmental, Society and Privacy issues</p>

Implementation				
Progression from Year 9:	How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages.			
Progression to Year 11:	As above but in more refined detail with greater ability to problem spot, solve and code independently. Ability to understand exam questions / requirements and structure responses in accordance with this.			
Spaced Interleaving:	The 2 exam components are interwoven following a unit of each structure to ensure that topics are interwoven and not to linear. The NEA is scheduled to be completed upon release in T1 of year 11 so as not to conflict with exam revision.			
Student Needs:	SEND:	<p>Levelled masterslide with clear outcomes. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Setting / pathways between computer science and iMedia. Afterschool catch up club. One 2 one support.</p> <p>Applying whole school practices of: Staff SEN champion Teach around the student meeting. Differentiated and accessible work Small chunked up elements</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females.</p>

		<p>Visual clues/dual coding  Introduction of new vocabulary using visual imagery and/or etymology  Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio  Students in a varied mix of groupings- 1:1/pairs/small gps and whole class  Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc  Efforts are always rewarded- verbally and through system  Learning is revisited for consolidation  Learning is exciting/competitive where possible  QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	<p>LPA:</p>	<p>Support:  Levelled masterslide with clear outcomes.  Seating plans.  Differentiation in tasks.  Individual support based on individual pupils needs.</p>	<p>HPA:</p>	<p>Challenge:  Modelled answers / access to previous learners work to better understand level of detail required in controlled assessments.  Stretch task available for each lesson focusing on independent programming skills/ and higher level skills in the exam unit to ensure pupils understand the</p>

		<p>Sequencing supports development of core skills at the start.</p> <p>Setting / pathways between computer science and iMedia.</p> <p>Afterschool catch up club.</p> <p>One 2 one support</p>		requirements of analysis and synoptic questions.
Extracurricular:	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers for example systems analyst.</p> <p>Providing students with essential workplace skills for example abstraction (identifying key information) and decomposition (breaking down difficult tasks).</p> <p>Weekly CatchUp – Club to support lower ability, stretch all and give pupils the ability to code independently on a topic of their choice.</p> <p>Support KS3 clubs – give pupils a chance to develop leadership skills and confidence to pass on their knowledge to younger users.</p>			
Literacy/Numeracy:	<p>Vocab (tier 2/3):</p>	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example decomposition, abstraction and pseudo code.</p> <p>Key terms on master slide throughout.</p> <p>Revisiting key vocabulary from KS3 and building upon it.</p> <p>Focus on developing pupils understanding of GCSE exam command words. For</p>	<p>Reading:</p>	<p>T1 Example</p> <p>Read briefs, case studies, tasks. For example reading large amounts of texts and abstracting key information in a methodical way.</p> <p>Reading / writing is a professional, customer focused tone for example abstraction / note taking skills.</p> <p>Eedi tests to check understanding of key terms and highlight misconceptions.</p> <p>Focus on developing pupils understanding of GCSE exam command words. For example calculate, compare,</p>

		<p>example calculate, compare, define, describe, Develop, discuss, draw, explain, extend, justify, and convert.</p>		<p>define, describe, Develop, discuss, draw, explain, extend, justify, and convert.</p>
	<p>Writing:</p>	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone for example abstraction / note taking skills.</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals.</p> <p>Digital writing skills in Office and Outlook support other subjects. For example note taking.</p>	<p>Numeracy:</p>	<p>T1 Example</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p> <p>Representation and substitution.</p> <p>Flow charts and data representation</p>
<p>Practice:</p>	<p>Mass:</p>	<p>T1 Example</p> <p>Decomposition: definition, application to a client brief. Centre designed brief covers the project assessed through written answers to extended questions.</p>	<p>Distributed:</p>	<p>T1 Example</p> <p>Revisits and builds upon skills / knowledge developed in Year 7 programming project, year 9 algorithms project.</p> <p>Integrated office skills e.g. creating flow charts in publishing software.</p>

Abstraction: definition, application to a client brief. Centre designed brief covers the project assessed through progression towards targets in a client brief.

Flow Charts: definition, types, uses, application to a client brief. Creation. Centre designed brief covers the project assessed through ability to independently present information relevant to the scenario.

Pseudo code: Definition, types, uses, application to a client brief. Centre designed brief covers the project assessed through ability to write own code relevant to the scenario brief.

Independent group project allows pupils to display all skills covered so far followed by a formal assessment with a mixture of multiple choice, short form and extended answers.

Assessments designed to not be linear and contain previous learning.

Exam style question practice enabling pupils to spot command word and form an appropriately structured response. For example calculate, compare, complete, convert, define, discuss, draw, explain, justify.

Beberas DNA tasks require logical / applied maths skills for example worded maths problems.

## KS4 – Year 11 Year Plan (Computer Science)

### Intent

Aims:

The aims for computer science at Landau Forte are to ensure that all pupils:

	<ul style="list-style-type: none"> <li>• Have strong academic results that allows them to pursue careers in computer science or others fields where the skills learned are able to set them apart from other candidates.</li> <li>• Can understand and apply the fundamental principles and concepts of abstraction, logic, algorithms and data representation.</li> <li>• Pupils can use the knowledge they have acquired to write code in the Python computing language order to solve such problems and use the transferrable / fundamental skills / concepts needed to be able to code in any computing language.</li> <li>• Can analyse complex real world problems in computational terms, by applying knowledge using familiar, unfamiliar or new technologies,</li> <li>• Leave the Academy as responsible, competent, confident and creative users of information and communication technology.</li> <li>•</li> </ul>			
Academy values:	<p><b>Ambitious:</b> The course aims to create the next generation of computer scientists that are able to solve complex real world problems in any computer language by applying the key concepts and skills they have gained. The course is delivered with a high level of challenge to engage the most able of pupils. To develop the problem solving skills that will allow pupils to code in any language by applying the principled that have been learnt.</p> <p><b>Brave:</b> Learners are challenged to use a programming language to meet user requirements and step out of their comfort zone by developing skills that they may need in later life.</p> <p><b>Kind:</b> The course is encourages pupils to consider the needs of other and consider the legal, social, environmental and ethical aspects of ICT and supporting technology usage.</p>			
Units of Study:				
Unit/Topic 1	Content:	Programming (NEA)  Designing the solution Creating the solution Testing the solution Potential enhancements and refinements	Spec Content:	<p><b>Programming skill project (non assessed component)</b> Centre designed programming skills project that assess students ability to:</p> <ul style="list-style-type: none"> <li>• Design</li> <li>• Write</li> <li>• Test</li> <li>• Refine</li> </ul>

	Key Concepts:	<p>How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages. Ability to problem spot, solve and code independently.</p> <p>Ability to understand exam questions / requirements and structure responses in accordance with this.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>
Unit/Topic 2	Content:	<p>Fundamentals of algorithms / Programming</p> <p>Topics: Revisiting all topics from Year 10</p>	Spec Content:	<p>Revisiting algorithms / Programming assessment objectives from Year 10</p>

	Key Concepts:	<p>How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages. Ability to problem spot, solve and code independently.</p> <p>Ability to understand exam questions / requirements and structure responses in accordance with this.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>	Powerful Knowledge:	<p>How to program / Concepts of programming</p> <p>Abstraction and Decomposition.</p>
Unit/Topic 3	Content:	<p>Data Representation / Computer Systems</p> <p>Topics:</p> <p>Revisiting all topics from Year 10</p>	Spec Content:	<p>Revisiting Data Representation / Computer Systems assessment objectives from Year 10</p>

	Key Concepts:	<p>How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages. Ability to problem spot, solve and code independently.</p> <p>Ability to understand exam questions / requirements and structure responses in accordance with this.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>	Powerful Knowledge:	How data is stored.
Unit/Topic 4	Content:	<p>Networks / Impacts of Technology.</p> <p>Topics:</p> <p>Revisiting all topics from Year 10</p>	Spec Content:	<p>Revisiting Networks / Impacts of Technology</p> <p>assessment objectives from Year 10</p>

	Key Concepts:	<p>How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages. Ability to problem spot, solve and code independently.</p> <p>Ability to understand exam questions / requirements and structure responses in accordance with this.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation</p> <p>Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs</p> <p>Think creatively, innovatively, analytically, logically and critically</p> <p>Understand the components that make up digital systems, and how they communicate with one another and with other systems</p> <p>Understand the impacts of digital technology to the individual and to wider society</p> <p>Apply maths skills relevant to computer science.</p>	Powerful Knowledge:	To know the properties of different networks and their uses.
Unit/Topic 5	Content:	<p>Revision</p> <p>Topics dependent on knowledge audit / mock exam analysis.</p>	Spec Content:	Assessment objectives dependent on knowledge audit / mock exam analysis.

	<p>Key Concepts:</p>	<p>How to stay safe when using computers at home and in school. More advanced computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages. Proficiency in 2 computer languages. Ability to problem spot, solve and code independently. Ability to understand exam questions / requirements and structure responses in accordance with this.</p> <p>Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation. Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs. Think creatively, innovatively, analytically, logically and critically. Understand the components that make up digital systems, and how they communicate with one another and with other systems. Understand the impacts of digital technology to the individual and to wider society. Apply maths skills relevant to computer science.</p>	<p>Powerful Knowledge:</p>	<p>Dependent on knowledge audit / mock exam analysis.</p> <p>Exam Technique.</p>
--	----------------------	---	----------------------------	--

**Implementation**

<p>Progression from Year 10:</p>	<p>All the above with enhanced focus on the "whys" and "whats" if each topic. Ability to apply the core principle of abstraction, decomposition and computation thinking to any scenario or language.</p>
----------------------------------	---

	Ability to actively reflect on work and use this to adapt practice and products,			
Progression to Post-16:	As above but in more refined detail with greater ability to problem spot, solve and code independently. Ability to understand exam questions / requirements and structure responses in accordance with this.			
Spaced Interleaving:	The 2 exam components are interwoven following a unit of each structure to ensure that topics are interwoven and not to linear. The NEA is scheduled to be completed upon release in T1 of year 11 so as not to conflict with exam revision.			
Student Needs:	SEND:	<p>Levelled masterslide with clear outcomes. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Setting / pathways between computer science and iMedia. Afterschool catch up club. One 2 one support.</p> <p>Applying whole school practices of: Staff SEN champion Teach around the student meeting. Differentiated and accessible work Small chunked up elements Visual clues/dual coding</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females.</p>

		<p>Introduction of new vocabulary using visual imagery and/or etymology</p> <p>Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio</p> <p>Students in a varied mix of groupings- 1:1/pairs/small gps and whole class</p> <p>Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc</p> <p>Efforts are always rewarded- verbally and through system</p> <p>Learning is revisited for consolidation</p> <p>Learning is exciting/competitive where possible</p> <p>QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	<p>LPA:</p>	<p>Support:  Levelled masterslide with clear outcomes.  Seating plans.  Differentiation in tasks.  Individual support based on individual pupils needs.</p>	<p>HPA:</p>	<p>Challenge:  Modelled answers / access to previous learners work to better understand level of detail required in controlled assessments.  Stretch task available for each lesson focusing on independent programming skills/ and higher level skills in the exam unit to ensure pupils understand the</p>

		<p>Sequencing supports development of core skills at the start.</p> <p>Setting / pathways between computer science and iMedia.</p> <p>Afterschool catch up club.</p> <p>One 2 one support</p>		requirements of analysis and synoptic questions.
Extracurricular:	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers for example software developer.</p> <p>Providing students with essential workplace skills for example project management, analytical approach to problem solving.</p> <p>Weekly CatchUp – Club for CA absences / support / additional requirements.</p> <p>Support KS3 clubs – give pupils a chance to develop leadership skills and confidence to pass on their knowledge to younger users.</p>			
Literacy/Numeracy:	<p>Vocab (tier 2/3):</p>	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example pseudo code, debug, breakpoint.</p> <p>Key terms on master slide throughout.</p> <p>Revisiting key vocabulary form KS3 and building upon it.</p>	<p>Reading:</p>	<p>T1 Example</p> <p>Read briefs, case studies, tasks. For example reading a design brief based on a fictional customers business requirements. (Exam board release).</p> <p>Reading / writing is a professional, customer focused tone for example formal business report.</p> <p>Eedi tests to check understanding of key terms and highlight misconceptions.</p>

		Focus on developing pupils understanding of GCSE exam command words. For example calculate, compare, define, describe, Develop, discuss, draw, explain, extend, justify, and convert.		Focus on developing pupils understanding of GCSE exam command words. For example calculate, compare, define, describe, Develop, discuss, draw, explain, extend, justify, and convert.
	Writing:	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone for example formal business report.</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals.</p> <p>Digital writing skills in Office and Outlook support other subjects. E.g. formal business report.</p>	Numeracy:	<p>T1 Example</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p> <p>Use maths operators e.g. add multiply subtract and division in Python Syntax</p>
Practice:	Mass:	<p>T1 Example</p> <p>This is a controlled assessment unit focused on independent programming. The unit is not formally assessed. Teacher and</p>	Distributed:	<p>T1 Example</p> <p>Project management skills: time keeping, organisation, Gaant charts, meeting the customer brief, peer and self - review.</p>

		<p>pupils will review progress to identify topics for review later in the year.</p> <p>Designing the solution: reading client brief and planning</p> <p>Creating the solution: producing a coded program that meets the needs of the brief.</p> <p>Testing the solution: ensuring the product works and problem solving.</p> <p>Potential enhancements and refinements: suggesting ways to develop the program further.</p>		<p>Revisits and builds upon skills / knowledge developed in year 10 exam 2 (programming unit).</p> <p>Assessments designed to not be linear and contain previous learning.</p> <p>Exam style question practice enabling pupils to spot command word and form an appropriately structured response. For example calculate, compare, complete, convert, define, discuss, draw, explain, justify.</p> <p>Beberas DNA tasks require logical / applied maths skills for example worded maths problems.</p>
--	--	---	--	---

## KS4 – Year 10 Year Plan (iMedia)

<b>Intent</b>	
Aims:	<p>To provide learners with essential knowledge and a range of creative media skills to create fit-for-purpose creative media products based on a real world context.</p> <p>To provide learners with transferable skills and tools to improve their learning in other subjects with the aims of enhancing their employability when they leave education contributing to their personal development and future economic well-being.</p> <p>To allow learners the freedom to explore the areas of creative media that interest them therefore encouraging independence, creativity and awareness of the digital media sector.</p> <p>To provide pupils with positive outcomes that allow them to pursue ICT / Media courses in HE / FE or the skills needed to pursue a career in this field.</p>

Academy values:	<p><b>Ambitious:</b> Learning to create to specification, and project management by Utilising creative media for fulfilling client brief, learning now creative skills and developing personal expression.</p> <p><b>Brave:</b> Learners are challenged to use a range of creative media software to meet user requirements and step out of their comfort zone by developing skills that they may need in later life.</p> <p><b>Kind:</b> The course is client based and encourages learners to consider the needs of customers based on a real world context. Whilst fostering independence pupils have to ensure that the needs of others are met to ensure success.</p>
-----------------	--

Units of Study:
-----------------

Unit/Topic 1	Content:	<p>R081Preproduction skills</p> <p>Purpose, uses and content of: Mood boards, mind maps, visualisation diagrams and storyboards.</p> <p>Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations</p>	Spec Content:	<p>Learning Outcome 1: Understand the purpose and content of pre-production</p> <p>Learning Outcome 2: Be able to plan pre-production</p>
	Key Concepts:	<p>Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident</p>	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p> <p>Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.</p>

		users of the Adobe suite and office package. Understand File formats.		
Unit/Topic 2	Content:	R081 Preproduction skills  Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations  Create the following preproduction documents: Mood boards, mind maps, visualisation diagrams and storyboards.	Spec Content:	Learning Outcome 2: Be able to plan pre-production  Learning Outcome 3: Be able to produce pre-
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.	Powerful Knowledge:	Employment skills: Project management and organisation.  Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.
Unit/Topic 3	Content:	R081 Preproduction skills  Understand File formats.  Review preproduction documents.  Identify areas for improvement in preproduction documents	Spec Content:	Learning Outcome 3: Be able to produce pre-production documents  Learning Outcome 4: Be able to review pre-production documents
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical	Powerful Knowledge:	Employment skills: Project management and organisation.  Creative / Entrepreneurial skills: Encouraging pupils to seek creative

		obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.		<p>solutions based on user / client requirements.</p> <p>Review and adaptation skills.</p> <p>Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.</p>
Unit/Topic 4	Content:	<p>R082 Creating Digital Graphics.</p> <p>Understand the purpose and properties of graphics including file formats, types and uses.</p> <p>Plan the creation of a digital graphic based on user needs by creating: a work plan, visualisation diagram, identifying assets and resources, considering legal and ethical implications.</p>	Spec Content:	<p>Learning Outcome 1: Understand the purpose and content of pre-production</p> <p>Learning Outcome 2: Be able to plan pre-production</p>
	Key Concepts:	<p>Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.</p>	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p> <p>Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.</p>
Unit/Topic 5	Content:	<p>R081 Preproduction skills</p> <p>Exam Revision</p> <p>R082 Creating Digital Graphics.</p>	Spec Content:	<p>Learning Outcome 3: Be able to create a digital graphic</p>

		<p>Source assets needed to create a digital graphic.</p> <p>Create a digital graphic based on user requirements.</p>		
	Key Concepts:	<p>Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.</p>	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p> <p>Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.</p>
Unit / Topic 6	Content:	<p>R082 Creating Digital Graphics</p> <p>Ensure the technical capability of assets used.</p> <p>Create a digital graphic based on user requirements.</p> <p>Appropriately export digital graphics.</p> <p>Review digital graphic against user requirements and Identify areas for improvements.</p>	Spec Content:	<p>Learning Outcome 3: Be able to create a digital graphic</p> <p>Learning Outcome 4: Be able to review a digital graphic</p>
	Key Concepts:	<p>Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief.</p>	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p>

		Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.		Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.  Review and adaptation skills.
--	--	---	--	---

## Implementation

Progression from Year 9:	Integrated office skills e.g. sending work through email /formatting skills. Pupils are comfortable using word and Powerpoint in particular. Pupils can save, share and organise work effectively. Pupils have had learnt the basics of Photoshop. Some prior understanding of legal, social, environmental considerations. Ability to peer / self- review effectively.			
Progression to Year 11:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Confident users of the Adobe suite and office package.			
Spaced Interleaving:	Sequencing allows pupils to attempt external exam twice. Knowledge of R081 topics (completed first) supported learning of all other units.			
Student Needs:	SEND:	<p>Levelled masterslide with clear outcomes. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Setting / pathways between computer science and iMedia. Afterschool catch up club. One 2 one support.</p> <p>Applying whole school practices of:</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females. Using the local area as context for scenarios to enable increased application and engagement.</p>

		<p>Staff SEN champion  Teach around the student meeting.  Differentiated and accessible work  Small chunked up elements  Visual clues/dual coding  Introduction of new vocabulary using visual imagery and/or etymology  Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio  Students in a varied mix of groupings- 1:1/pairs/small gps and whole class  Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc  Efforts are always rewarded- verbally and through system  Learning is revisited for consolidation  Learning is exciting/competitive where possible  QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	LPA:	Support:	HPA:	Challenge:

		<p>Using the local area as context for scenarios to enable increased application and engagement.</p> <p>Levelled masterslide with clear outcomes.</p> <p>Seating plans.</p> <p>Differentiation in tasks.</p> <p>Individual support based on individual pupils needs.</p> <p>Sequencing supports development of core skills at the start.</p> <p>Setting / pathways between computer science and iMedia.</p> <p>Afterschool catch up club.</p> <p>One 2 one support</p>		<p>Modelled answers / access to previous learners work to better understand level of detail required in controlled assessments.</p> <p>Stretch task available for each lesson focusing on top mark band / wider knowledge in coursework and higher level skills in the exam unit to ensure pupils understand the requirements of analysis and synoptic questions.</p>
Extracurricular:	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers for example project.</p> <p>Providing students with essential workplace skills for example digital literacy in office package, project management skills.</p> <p>Ability to follow detailed instructions independently whilst coming up with a unique solution to a problem.</p> <p>Weekly CatchUp – Club for pupils who are behind / absent / in need of additional support</p> <p>Careers talk: Careers in graphics designer.</p>			
Literacy/Numeracy:	Vocab (tier 2/3):	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example storyboard, visualisation diagram, client.</p>	Reading:	<p>T1 Example</p> <p>Read briefs, case studies, tasks. For example the client brief/ requirements of a childrens party planner.</p> <p>Reading / writing is a professional, customer focused tone for example</p>

		Key terms on master slide throughout.		<p>create mood board for a childrens party planner.</p> <p>Development of understanding key exam command words for example recall, evaluate, understand, demonstrate, interpret, create, apply, analyse, recommend.</p>
	Writing:	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone for example for example create mood board for a childrens party planner.</p> <p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Exam style questions practiced at regular intervals using exam language, key words and case studies.</p> <p>Digital writing skills in Office and Outlook support other subjects for example word processing a script.</p>	Numeracy:	<p>T1 Example</p> <p>To enable learners to demonstrate analytical and interpretation skills (of situations and/or Results) and the ability to formulate valid well-argued responses based on exam style case studies.</p> <p>Completing Gaant charts based on exam style scenario.</p> <p>Financial costings based on a case study scenario in exam style format.</p>
Practice:	Mass:	T1 Example	Distributed:	T1 Example

		<p>Purpose, uses and content of: Mood boards, mind maps, visualisation diagrams and storyboards.</p> <p>Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations.</p> <p>Assessed upon completion of each preproduction document with a DIRT / feedback task.</p> <p>Also assessed through exam style questions to support knowledge with a mixture of multiple choice, short and extended answers.</p>		<p>Builds upon Year 9 Produce a graphic project.</p> <p>Integrated office skills e.g. sending work through email /formatting skills. Assessments designed to not be linear and contain previous learning.</p> <p>Exam style question practice enabling pupils to spot command word and form an appropriately structured response.</p> <p>DNA: Online Mini quiz recapping previous learning and introducing new topics. Review of task brief.</p>
--	--	--	--	--

## KS4 – Year 11 Year Plan (iMedia)

### Intent

<p>Aims:</p>	<p>To provide learners with essential knowledge and a range of creative media skills to create fit-for-purpose creative media products based on a real world context.</p> <p>To provide learners with transferable skills and tools to improve their learning in other subjects with the aims of enhancing their employability when they leave education contributing to their personal development and future economic well-being.</p> <p>To allow learners the freedom to explore the areas of creative media that interest them therefore encouraging independence, creativity and awareness of the digital media sector.</p>
--------------	--

	To provide pupils with positive outcomes that allow them to pursue ICT / Media courses in HE / FE or the skills needed to pursue a career in this field.			
Academy values:	<p><b>Ambitious:</b> Learning to create to specification, and project management by Utilising creative media for fulfilling client brief, learning now creative skills and developing personal expression.</p> <p><b>Brave:</b> Learners are challenged to use a range of creative media software to meet user requirements and step out of their comfort zone by developing skills that they may need in later life.</p> <p><b>Kind:</b> The course is client based and encourages learners to consider the needs of customers based on a real world context. Whilst fostering independence pupils have to ensure that the needs of others are met to ensure success.</p>			
Units of Study:				
Unit/Topic 1	Content:	<p>R087 – create an interactive multimedia product</p> <p>Purpose, uses and key elements and limitations of different multimedia products</p> <p>Hardware, software and file format needs.</p> <p>Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations</p>	Spec Content:	<p>Learning Outcome 1: Understand the uses and properties of interactive multimedia products</p> <p>Learning Outcome 2: Be able to plan interactive multimedia products</p>
	Key Concepts:	<p>Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File</p>	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p>

		formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.		Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs
Unit/Topic 2	Content:	<p>R087 – create an interactive multimedia product</p> <p>Plan the creation of an interactive multimedia product based on user needs by creating: a work plan, visualisation diagram, identifying assets and resources, considering legal and ethical implications</p> <p>Review multimedia product against user requirements and Identify areas for improvements.</p>	Spec Content:	<p>Learning Outcome 3: Be able to create interactive multimedia products</p> <p>Learning Outcome 4: Be able to review interactive multimedia products</p>
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p>
Unit/Topic 3	Content:	<p>R085: Create a multipage website</p> <p>Purpose, uses and key elements and limitations of different multimedia products</p> <p>Hardware, software and file format needs.</p>	Spec Content:	<p>Learning Outcome 1: Understand the properties and features of multipage websites</p> <p>Learning Outcome 2: Be able to plan a multipage website</p>

		Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations		
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p> <p>Review and adaptation skills.</p> <p>Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.</p>
Unit/Topic 4	Content:	<p>R087 – create an interactive multimedia product</p> <p>Plan the creation of an multipage website based on user needs by creating: a work plan, visualisation diagram, identifying assets and resources, considering legal and ethical implications</p> <p>Review multipage website product against user requirements and Identify areas for improvements.</p>	Spec Content:	<p>Learning Outcome 3: Be able to create multipage websites using multimedia components</p> <p>Learning Outcome 4: Be able to review a multipage website</p>
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File	Powerful Knowledge:	<p>Employment skills: Project management and organisation.</p> <p>Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.</p>

		formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.		Digital Literacy: Providing pupils with the knowledge and skills to use a variety of media software programs.
Unit/Topic 5	Content:	R081 Preproduction skills  Exam Revision	Spec Content:	Learning Outcome 1: Understand the purpose and content of pre-production  Learning Outcome 2: Be able to plan pre-production  Learning Outcome 3: Be able to produce pre-production documents  Learning Outcome 4: Be able to review pre-production documents
	Key Concepts:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.	Powerful Knowledge:	Employment skills: Project management and organisation.  Creative / Entrepreneurial skills: Encouraging pupils to seek creative solutions based on user / client requirements.  Review and adaptation skills.
<b>Implementation</b>				
Progression from Year 10:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Confident users of the Adobe suite and office package.			
Progression to Post-16:	Ability to understand the purpose of and ability to create preproduction documents. The importance of meeting the requirements of a customer brief. Knowledge of legal and ethical obligations. Purpose and uses of different Hardware / software. Understand File formats e.g. JPER, RAW, WAV. Understand the purpose and properties of graphics including file formats, types and uses. E.g. colour depth, resolution, file size. Confident users of the Adobe suite and office package. Understand File formats.			

Spaced Interleaving:	Sequencing allows pupils to attempt external exam twice. Knowledge of R081 topics (completed first) supported learning of all other units.			
Student Needs:	SEND:	<p>Levelled masterslide with clear outcomes. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Setting / pathways between computer science and iMedia. Afterschool catch up club. One 2 one support.</p> <p>Applying whole school practices of: Staff SEN champion Teach around the student meeting. Differentiated and accessible work Small chunked up elements Visual clues/dual coding Introduction of new vocabulary using visual imagery and/or etymology Students asked to demonstrate learning in a variety of ways- eg- drawing/video/mind maps/audio Students in a varied mix of groupings- 1:1/pairs/small gps and whole class</p>	Context	<p>Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females. Using the local area as context for scenarios to enable increased application and engagement.</p>

		<p>Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips /maps etc</p> <p>Efforts are always rewarded-verbally and through system</p> <p>Learning is revisited for consolidation</p> <p>Learning is exciting/competitive where possible</p> <p>QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed</p>		
	LPA:	<p>Support:</p> <p>Using the local area as context for scenarios to enable increased application and engagement.</p> <p>Levelled masterslide with clear outcomes.</p> <p>Seating plans.</p> <p>Differentiation in tasks.</p> <p>Individual support based on individual pupils needs.</p> <p>Sequencing supports development of core skills at the start.</p> <p>Setting / pathways between computer science and iMedia.</p> <p>Afterschool catch up club.</p> <p>One 2 one support</p>	HPA:	<p>Challenge:</p> <p>Modelled answers / access to previous learners work to better understand level of detail required in controlled assessments.</p> <p>Stretch task available for each lesson focusing on top mark band / wider knowledge in coursework and higher level skills in the exam unit to ensure pupils understand the requirements of analysis and synoptic questions.</p>

<p>Extracurricular:</p>	<p>T1 Example</p> <p>Master slide links each lesson to relevant careers for example game designer.</p> <p>Providing students with essential workplace skills for example project management, reflective learners with a growth mind-set, meeting client briefs / needs.</p> <p>Ability to follow detailed instructions independently whilst coming up with a unique solution to a problem.</p> <p>Weekly CatchUp – Club for pupils who are behind / absent / in need of additional support</p>			
<p>Literacy/Numeracy:</p>	<p>Vocab (tier 2/3):</p>	<p>T1 Example</p> <p>Use of key terms throughout and revisiting in starters and plenaries for example transition, navigation, buttons.</p> <p>Key terms on master slide throughout.</p>	<p>Reading:</p>	<p>T1 Example</p> <p>Read briefs, case studies, tasks. for example reading a client brief based on a pre released case study scenario.</p> <p>Reading / writing is a professional, customer focused tone for example creating pre-production documents brief based on a pre released case study scenario.</p> <p>Development of understanding key exam command words for example recall, evaluate, understand, demonstrate, interpret, create, apply, analyse, recommend.</p>
	<p>Writing:</p>	<p>T1 Example</p> <p>Reading / writing is a professional, customer focused tone for example</p>	<p>Numeracy:</p>	<p>T1 Example</p> <p>to enable learners to demonstrate analytical and interpretation skills (of situations and/or results) and the ability to formulate valid well-argued responses based on</p>

		<p>Introduction of exercise books to improve note taking / revision skills.</p> <p>Digital writing skills in Office and Outlook support other subjects for example word processing a script.</p>		<p>controlled assessment assignment brief (pre released at the start of each academic year)</p> <p>Presenting numerical data e.g. graphs / charts based on pupil research (optional)</p> <p>Completing Gaant charts based on assignment brief (pre released at the start of each academic year)</p> <p>Financial costings based on a case study scenario. (pre released at the start of each academic year)</p>
Practice:	Mass:	<p>T1 Example</p> <p>R087 unit is controlled assessment and is formally assessed through written reports, creation of preproduction documents and digital asset (graphic). Pupils have opportunity to self and peer assess work at appropriate intervals in line with exam board regulations.</p> <p>Purpose, uses and key elements and limitations of different multimedia products for example PPT, websites, flash animations etc.</p>	Distributed:	<p>T1 Example</p> <p>Integrated office skills e.g. sending work through email /formatting skills. Assessments designed to not be linear and contain previous learning.</p> <p>Project management skills: time keeping, organisation, Gaant charts, meeting the customer brief, peer and self - review.</p> <p>Revisit and build upon the following skills from R081:</p> <p>Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations</p> <p>Create the following preproduction documents: Mood boards, mind maps, visualisation diagrams.</p>

		<p>Hardware, software and file format needs. Definitions, types, limitations, user requirements, compatibility.</p> <p>Interpret client requirements to produce a work plan, production schedule, hardware / software needs, legal and ethical obligations e.g. ethical hacking.</p>		
--	--	--	--	--

## 5 Year Curriculum Week Plan

### KS3 - Year 7

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn Term 1	<b>Introduction to ICT</b> Introduction	<b>Introduction to ICT</b> Teams Training	<b>Introduction to ICT</b> Baseline	<b>Introduction to ICT</b> Emails	<b>Introduction to ICT</b> Presentation Skills	<b>Introduction to ICT</b> Presentation Skills	<b>Introduction to ICT</b> E Safety
Autumn Term 2	<b>Introduction to ICT</b> British Values	<b>Modelling Data</b> Spreadsheet Basics	<b>Modelling Data</b> Spreadsheet Calculations	<b>Modelling Data</b> Spreadsheet Calculations	<b>Modelling Data</b> Collecting Data	<b>Modelling Data</b> Data Analysis	<b>Intro / Modelling Data</b> Mini Assessment
Spring Term 1	<b>Networks</b> Networks and Protocols	<b>Networks</b> Networks and Protocols	<b>Networks</b> Hardware and Software	<b>Networks</b> Wired / Wireless networks	<b>Networks</b> Wired / Wireless networks	<b>Networks</b> The internet	<b>Networks</b> The internet

<b>Spring Term 2</b>	<b>Programming</b> Animation	<b>Programming</b> Movement	<b>Programming</b> Game Basics	<b>Programming</b> Game Basics	<b>Programming</b> Graphics	<b>Programming</b> Variables	<b>Programming</b> Variables
<b>Summer Term 1</b>	Assessment Point 1	Assessment Point 1	<b>Programming</b> IF function	<b>Programming</b> Boolean Logic	<b>Programming</b> Broadcasting	<b>Programming</b> Lists	Catch Up Lesson
<b>Summer Term 2</b>	<b>Representation</b> Types of representation	<b>Representation</b> Types of representation	<b>Representation</b> Encoding / decoding	<b>Representation</b> Encoding / decoding	<b>Representation</b> Binary	<b>Representation</b> Binary	Catch Up Lesson

## KS3 - Year 8

	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>	<b>Week 6</b>	<b>Week 7</b>
<b>Autumn Term 1</b>	<b>Representation</b> Baseline Assessment	<b>Representation</b> Measuring and Converting Units	<b>Representation</b> Binary	<b>Cyber Security</b> Cyber Security	<b>Cyber Security</b> Primary and Secondary Data	<b>Assessment Point 1</b> Revision	<b>Assessment Point 1</b> Assessment
<b>Autumn Term 2</b>	<b>Cyber Security</b> Primary and Secondary Data	<b>Cyber Security</b> Gathering Data	<b>Cyber Security</b> Gathering Data	<b>Cyber Security</b> Analysing Data	<b>Cyber Security</b> Analysing Data	<b>Cyber Security</b> Testing	<b>Cyber Security</b> Testing
<b>Spring Term 1</b>	<b>Programming</b> Input / Output	<b>Programming</b> Variables	<b>Programming</b> Operators	<b>Programming</b> Operators	<b>Programming</b> Data Types	<b>Programming</b> IF Statements	<b>Programming</b> IF Statements
<b>Spring Term 2</b>	<b>Programming</b> Loops	<b>Programming</b> Arrays	<b>Programming</b> Catch Up Lesson	<b>Programming</b> Assessment	<b>Web Design</b> HTML	<b>Web Design</b> Structuring Webpages	<b>Web Design</b> Structuring Webpages

<b>Summer Term 1</b>	<b>Web Design</b> Navigation	<b>Web Design</b> Navigation	<b>Web Design</b> Banners	<b>Web Design</b> Banners	<b>Web Design</b> Animation	<b>Web Design</b> Sorts	Catch Up Lesson
<b>Summer Term 2</b>	<b>Hardware / Software</b> Word Processing	<b>Hardware / Software</b> Word Processing	<b>Hardware / Software</b> Ethics	<b>Hardware / Software</b> Ethics	<b>Hardware / Software</b> House style	<b>Hardware / Software</b> Impacts of Technology	Catch Up Lesson

## KS3 - Year 9

	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>	<b>Week 6</b>	<b>Week 7</b>
<b>Autumn Term 1</b>	<b>Problem Solving in Python</b> Baseline Assessment	<b>Problem Solving in Python</b> Programming basics	<b>Problem Solving in Python</b> Inputs	<b>Problem Solving in Python</b> Variables and Operators	<b>Problem Solving in Python</b> Iteration	<b>Problem Solving in Python</b> Data Structure	<b>Problem Solving in Python</b> Subroutines
<b>Autumn Term 2</b>	<b>Problem Solving in Python</b> Assessment	<b>Binary</b> What is Binary?	<b>Binary</b> Binary maths	<b>Binary</b> Binary conversion	<b>Binary</b> Binary conversion	<b>Binary</b> Sound representation	<b>Binary</b> Representing Images
<b>Spring Term 1</b>	<b>Assessment Point 1</b> Revision	<b>Assessment Point 1</b> Assessment	<b>Logic Gates</b> Boolean Logic	<b>Logic Gates</b> Boolean Circuits	<b>Logic Gates</b> Boolean Circuits	<b>Algorithms</b> Decomposition	<b>Algorithms</b> Abstraction
<b>Spring Term 2</b>	<b>Algorithms</b> Pseudo Code	<b>Algorithms</b> Pseudo Code	<b>Ethics</b> Privacy	<b>Ethics</b> Privacy	<b>Ethics</b> Legislation	<b>Ethics</b> Environmental issues	<b>Ethics</b> Legal issues

<b>Summer Term 1</b>	<b>Ethics</b> Social Impacts	<b>Digital Graphics</b> Software Skills	<b>Digital Graphics</b> Software Skills	<b>Digital Graphics</b> Software Skills	<b>Digital Graphics</b> Purpose of Graphics	<b>Digital Graphics</b> Legal Issues	Catch Up Lesson
<b>Summer Term 2</b>	<b>Computer Systems</b> CPU	<b>Computer Systems</b> Storage	<b>Computer Systems</b> Memory	<b>Computer Systems</b> Input / Output Devices	<b>Computer Systems</b> Networks	<b>Computer Systems</b> Networks	Catch Up Lesson

## KS4 - Year 10 (GCSE)

	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>	<b>Week 6</b>	<b>Week 7</b>
<b>Autumn Term 1</b>	<b>Fundamentals of algorithms</b> Representing algorithms Efficiency of algorithms	<b>Fundamentals of algorithms</b> Searching algorithms Sorting algorithms	<b>Fundamentals of algorithms</b> Decomposition	<b>Fundamentals of algorithms</b> Abstraction	<b>Fundamentals of algorithms</b> Flow Charts	<b>Fundamentals of algorithms</b> Pseudo code	<b>Fundamentals of algorithms</b> Pseudo code
<b>Autumn Term 2</b>	<b>Fundamentals of algorithms</b> Revision and Assessment	<b>Programming</b> Data types Programming concepts	<b>Programming</b> Iteration Repetition	<b>Programming</b> Functions	<b>Programming</b> Arrays	<b>Assessment Point 1</b>	<b>Programming</b> Files
<b>Spring Term 1</b>	<b>Programming</b> Dictionaries	<b>Programming</b> Robust Programming	<b>Programming</b> Revision and Assessment	<b>Data Representation</b> Number Bases Converting Number Bases	<b>Data Representation</b> Conversion Units	<b>Data Representation</b> Binary Arithmetic	<b>Data Representation</b> Character Encoding
<b>Spring Term 2</b>	<b>Data Representation</b>	<b>Data Representation</b>	<b>Data Representation</b>	<b>Data Representation</b>	<b>Computer Systems</b>	<b>Computer Systems</b> Boolean Logic	<b>Computer Systems</b>

	Representing Images	Representing Sounds	Data Compression	Revision and Assessment	Hardware / Software		Software Classification
<b>Summer Term 1</b>	<b>Computer Systems</b> Classification of languages and translators	<b>Computer Systems</b> Systems architecture	<b>Computer Systems</b> Revision and Assessment	<b>Networks</b> Wired / Wireless	<b>Networks</b> LANS	<b>Networks</b> Security Protocols	<b>Networks</b> Cyber Security
<b>Summer Term 2</b>	<b>Impact of Technology</b> Ethical Impacts Cyber Security	<b>Assessment Point 2:</b> Revision Assessment	<b>Assessment Point 2:</b> Revision Assessment	<b>Impact of Technology</b> Legal Impacts	<b>Impact of Technology</b> Environmental Impacts	<b>Work Experience</b>	Catch Up Lessons

## KS4 - Year 11(GCSE)

	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>	<b>Week 6</b>	<b>Week 7</b>
<b>Autumn Term 1</b>	<b>Impact of Technology</b> Wider Society	<b>Impact of Technology</b> Privacy SQL	<b>Impact of Technology</b> Revision Assessment	Catch Up Lesson	<b>Assessment Point 1:</b> Revision Assessment	<b>Programming (NEA)</b> Designing the solution	<b>Programming (NEA)</b> Designing the solution
<b>Autumn Term 2</b>	<b>Programming (NEA)</b> Creating the solution	<b>Programming (NEA)</b> Creating the solution	<b>Programming (NEA)</b> Testing the solution	<b>Programming (NEA)</b> Testing the solution	<b>Assessment Point 2:</b> Revision Assessment	<b>Assessment Point 2:</b> Revision Assessment	<b>Programming (NEA)</b> Potential enhancements and refinements
<b>Spring Term 1</b>	<b>Fundamentals of algorithms</b> Revision	<b>Fundamentals of algorithms</b> Revision	<b>Programming</b> Revision	<b>Programming</b> Revision	<b>Data Representation</b> Revision	<b>Data Representation</b> Revision	<b>Computer Systems</b> Revision
<b>Spring Term 2</b>	<b>Assessment Point 3:</b> Revision Assessment	<b>Assessment Point 3:</b> Revision Assessment	<b>Assessment Point 3:</b> Revision Assessment	<b>Computer Systems</b> Revision	<b>Networks</b> Revision	<b>Networks</b> Revision	<b>Impact of Technology</b> Revision

Summer Term 1	Impact of Technology Revision	Past Papers	Past Papers	N/A	N/A	N/A	N/A
Summer Term 2							

## KS4 - Year 10 (iMedia)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn Term 1	<b>R081 Preproduction Skills: LO1</b> Understand the purpose of pre-production	<b>R081 Preproduction Skills: LO1</b> Content of Mood board / mind maps	<b>R081 Preproduction Skills: LO1</b> Content of visualisation diagrams	<b>R081 Preproduction Skills: LO1</b> Content of story boards	<b>R081 Preproduction Skills: LO1</b> Content of scripts	<b>R081 Preproduction Skills: LO2</b> Interpret Client requirements	<b>R081 Preproduction Skills: LO2</b> Primary Research
Autumn Term 2	<b>R081 Preproduction Skills: LO2</b> Secondary Research	<b>R081 Preproduction Skills: LO2</b> Produce a Work plan	<b>R081 Preproduction Skills: LO2</b> Target Audience	<b>R081 Preproduction Skills: LO2</b> Hardware / Software	<b>R081 Preproduction Skills: LO2</b> Health and Safety	<b>Assessment Point 1</b>	<b>R081 Preproduction Skills: LO2</b> Legislation
Spring Term 1	<b>R081 Preproduction Skills:</b>	<b>R081 Preproduction Skills:</b>	<b>R081 Preproduction Skills:</b>	<b>R081 Preproduction Skills:</b>	<b>R081 Preproduction Skills:</b>	<b>R081 Preproduction Skills:</b>	Catch Up Lessons

	<b>LO3</b> Create a mood board / mind map	<b>LO3</b> Create a visualisation diagram	<b>LO3</b> Create a storyboard.	<b>LO3</b> File formats	<b>LO4</b> Pre-Production Review	<b>LO4</b> Identify Improvements	
<b>Spring Term 2</b>	<b>R082 Creating Digital Graphics LO1</b> Purpose, formats and properties of graphics	<b>R082 Creating Digital Graphics LO2</b> Interpret client requirements	<b>R082 Creating Digital Graphics LO2</b> Produce a work plan/ visualisation diagram	<b>R082 Creating Digital Graphics LO2</b> Identify assets / resources	<b>R082 Creating Digital Graphics LO2</b> Legislation	<b>R082 Creating Digital Graphics LO3</b> Source / Create Assets	<b>R082 Creating Digital Graphics LO3</b> Create a digital graphic
<b>Summer Term 1</b>	Exam Revision	<b>External Examination</b>	<b>R082 Creating Digital Graphics LO3</b> Save/ export a digital graphic	<b>R082 Creating Digital Graphics LO4</b> Pre-Production Review	<b>R082 Creating Digital Graphics LO4</b> Identify Improvements	<b>R085 Creation of a Multipage Website LO1</b> Purpose / Features of a website	<b>R085 Creation of a Multipage Website LO1</b> Internet Connections
<b>Summer Term 2</b>	Exam Revision	<b>Assessment Point 2:</b> Revision Assessment	<b>Assessment Point 2:</b> Revision Assessment	<b>R085 Creation of a Multipage Website LO2</b> Interpret client requirements	<b>R085 Creation of a Multipage Website LO2</b> Create a Work plan / site map	<b>Work Experience</b>	Catch Up Lessons

## KS4 - Year 11(iMedia)

	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>	<b>Week 6</b>	<b>Week 7</b>
<b>Autumn Term 1</b>	<b>R085 Creation of a Multipage Website LO2</b> Create a Work plan / site map	<b>R085 Creation of a Multipage Website LO2</b> Identify assets / resources	<b>R085 Creation of a Multipage Website LO2</b> Test plan / legislation	<b>R085 Creation of a Multipage Website LO3</b> Create Website	<b>Assessment Point 1:</b> Revision Assessment	<b>R085 Creation of a Multipage Website LO3</b> Create Website	<b>R085 Creation of a Multipage Website LO4</b> Pre-Production Review

<b>Autumn Term 2</b>	<b>R085 Creation of a Multipage Website LO4</b> Identify Improvements	<b>R087 Creating an Interactive Multimedia Product LO1</b> Purposes / key elements	<b>R087 Creating an Interactive Multimedia Product LO1</b> Hardware / software / file formats	<b>R087 Creating an Interactive Multimedia Product LO2</b> Interpret client requirements	<b>Assessment Point 2:</b> Revision Assessment	<b>Assessment Point 2:</b> Revision Assessment	<b>R087 Creating an Interactive Multimedia Product LO2</b> Create a Work plan / visualisation diagrams
<b>Spring Term 1</b>	<b>R087 Creating an Interactive Multimedia Product LO2</b> Legislation	<b>R087 Creating an Interactive Multimedia Product LO2</b> Create Multimedia Product	<b>R087 Creating an Interactive Multimedia Product LO2</b> Create Multimedia Product	<b>R087 Creating an Interactive Multimedia Product LO4</b> Save/ export a digital	<b>R087 Creating an Interactive Multimedia Product LO4</b> Pre-Production Review	<b>R087 Creating an Interactive Multimedia Product LO4</b> Identify Improvements	Catch Up Lesson
<b>Spring Term 2</b>	<b>Assessment Point 3:</b> Revision Assessment	<b>Assessment Point 3:</b> Revision Assessment	<b>Assessment Point 3:</b> Revision Assessment	Catch Up Lesson	<b>R081 Revision LO1</b>	<b>R081 Revision LO2</b>	<b>R081 Revision LO3</b>
<b>Summer Term 1</b>	<b>R081 Revision LO4</b>	<b>Past Papers</b>	<b>Past Papers</b>	N/A	N/A	N/A	N/A
<b>Summer Term 2</b>							



## How does the Five Year Curriculum Plan meet the ACE curriculum design?

<b>Ambitious</b>	<p>KS3</p> <p>Ambitious: Delivery of challenging concepts and ideas. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Covers a wide range of topics including all of NC. Linked to intent and careers document.</p> <p>KS4</p> <p>Ambitious: Delivery of challenging concepts and ideas. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Covers a wide range of topics including all of NC. Linked to intent and careers document. Modelled answers / access to previous learners work to better understand level of detail required in extended questions. Stretch task available for each lesson focusing on independent programming in coursework and higher level skills in the exam unit to ensure pupils understand the requirements of analysis and synoptic questions.</p>
<b>Challenging</b>	<p>Ks3</p> <p>Delivery of challenging concepts and ideas. Lessons created at high level of stretch for age group. Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Differentiation. Berbaras tasks are levelled</p> <p>Ks4</p> <p>Delivery of challenging concepts and ideas. Lessons created at high level of stretch for age group. Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Differentiation. Berbaras tasks are levelled. Modelled answers / access to previous learners work to better understand level of detail required in extended questions. Stretch task available for each lesson focusing on independent programming in coursework and higher level skills in the exam unit to ensure pupils understand the requirements of analysis and synoptic questions.</p>

<b>Engaging</b>	<p><b>KS3</b></p> <p>Interweaving and spacing of content over the 3 year cycle.  Year 7 topics plug any gaps in knowledge from prior learning to ensure future progress for all.  Year 9 pathways split to ensure engagement is high and pupils are provided with the right skills for future pathways.</p> <p>Ks4</p> <p>Interweaving and spacing of content over the 3 year cycle.  Year 7 topics plug any gaps in knowledge from prior learning to ensure future progress for all.  Year 9 pathways split to ensure engagement is high and pupils are provided with the right skills for future pathways.  Extra curricular activities support and lifelong love of programming.</p>
-----------------	---

**What are the current strengths of the Five Year Curriculum Plan?**

<p><b>KS3</b></p> <p>Fulfils the national curriculum criteria.  Gives pupils the required building block skills to succeed at KS4.  Allows pupils to make informed pathway decisions.  Cultural Capital: Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology / Become digitally literate in order to become active participants in a digital society and workplace.  Strong interweaving and building on prior knowledge.  Created in conjunction with and checked by NCCE.</p> <p><b>Ks4</b></p> <p>Fulfils the national curriculum criteria.  Gives pupils the required building block skills to succeed at KS5 / allows pupils to make informed pathway decisions.  Cultural Capital: Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology / Become digitally literate in order to become active participants in a digital society and workplace.  Strong interweaving and building on prior knowledge.  Created in conjunction with and checked by NCCE.  Total rework of previous offering to keep up with developments in subject. Significant amount of training undertook by whole department.</p>
---

**What specific actions have to be taken in response to the above? Please consider:**

- Unit sequence changes;
- Content changes at KS3 and KS4;
- Modifications to ensure an ACE curriculum design;
- CPD for teachers in your subject area;
- Additional research you have to consider as part of this review.

KS3

Update learning resources using support from NCCE with focus on using Amington teaching model.  
Embedding / organising cultural / afterschool / careers opportunities into practice.  
Create DNA Activities using Berberas.  
Update assessment using EEDI  
Create more differentiated resources for SEN pupils.  
QA and review with NCCE.  
CPD opportunities for CMI.

Ks4

Fulfils the national curriculum criteria.  
Gives pupils the required building block skills to succeed at KS4.  
Allows pupils to make informed pathway decisions.  
Cultural Capital: Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology / Become digitally literate in order to become active participants in a digital society and workplace.  
Strong interweaving and building on prior knowledge.  
Explore CPD opportunities for CMI and GMA.  
Created in conjunction with and checked by NCCE, regular updates and QA to take place. NCCE partner to be invited into Academy at regular intervals.  
Use support network of trust and partner schools through the NCCE.  
Use governors / external links to create a clear program for extra-curricular activities such as trips and speakers.  
Review the mass practice delivered in year 11 based upon current cohort. Will content be delivered as quickly as planned or will it need spacing out more?

