Reddish Vale High School Computing and Business Curriculum Overview

INTENT:

The Digital and Computing industry are the fastest growing careers in the greater Manchester area, the intent of this department and its curriculum is to equip the students at Reddish Vale to build the resilience, creativity, independence and aspiration required to be successful in their continued learning and ultimate employment in this field and beyond. In addition, Entrepreneurs are the backbone of our economy, both the GCSE and vocational course will provide the students with an opportunity to develop and grow these skills beyond the course content through our links to employers and MMU.

Area	Year Group (click to access)	Intent
Computing	Year 7 Computing	The schemes allow students to build skills at the start of their computing journey or to embed those learned from primary. Year 7 start with key online safety factors followed by building skills, using different basic techniques in a range of software; for example, students use some graphics and desk top publishing tools when creating and editing content for printed and digital posters. The Microsoft suite is used for word processing and file and folder structures. This allows students to build on any experience they have from primary; which tends to be limited and variable. Students develop an understanding and application of purpose and audience. This moves onto exploring social and online factors that may affect confidence, self-esteem and impact of actions, giving students a range of ways and strategies to stay safe online, whilst creating a range of resources for different audiences and purpose – e.g. Parents and younger children.
	Year 8 Computing	Year 8 is a mixture of building on year 7 knowledge and skills and introducing more complex concepts. Computational thinking and software. It starts for this one year (2019-20) with Computer systems (that have not previously been studied in year 7 (they will be in year 7 from now on) This then progresses to more advanced algorithms and practical application of control systems. Students develop this by moving onto programming language. This provides links for careers and business by looking at Digital and Computing entrepreneurs.
Transition	Year 9	
IT	Year 9 Computer Science 9-1 GCSE	This is an introduction to Computer Science, building on knowledge and skills from year 8, a deeper knowledge and skills base is established to build on in year 10. Students will gain full exposure to programming languages, focusing on Python and the theory behind it, with Data representation; how computers store characters, images and sound. Students will be using activities and assessments that ae based on the knowledge and skills required for paper one with a more in depth learning of the parts of computer systems and how they all work together.
	Year 9 Creative iMedia Vocational	This year brings together skills learnt in year 7-8 to start to meet increasingly difficult skills required for the CA briefs. The focus is to develop a passion for this course and a pride in what they produce. Students cover knowledge across the units, with a larger focus on RO81 and R082 practicing first the skills for R082 and constantly looking at the level required for the distinction standard so that students develop high expectations and standards. Students will learn the knowledge for R081 (written exam) alongside the practical skill application so that the learning is meaningful and has an impact. Students will develop a good understanding of the requirements of briefs and how they are assessed, links throughout the year will focus on business and client requirements as well as the opportunities that these skills can provide in learning progression pathways, cross curricular and beyond
Business	Year 9 Business 9-1 GCSE	This is an introduction into Business. As students have not studied this before, it is about building base knowledge and skills. Business has 2 themes that underpin the course: Theme 1 -Investigating small business and Theme 2-Building a business. The first being the focus for the first year. We will use activities and assessment that mimic paper 1. Students will also have the opportunity to complete a practical enterprise challenge. Students will be expected to develop a large breadth of knowledge and skills so that they can begin to understand the dynamic nature

		of business and support confident access to assessment tasks. Students will develop business and the role of business enterprise
	Year 9 Enterprise and Marketing Vocational	This is a brand new course for the school, selected to offer a practical experience of entrepreneurship, introducing Enterprise and marketing concepts required for setting up a business. Students are introduced to applied knowledge and practical skills in enterprise and marketing. It is designed with both practical and theoretical elements, students will study a further 2 units for the full qualification consisting of designing a business proposal which they will then go on to market and pitch, which will prepare students for further study of qualifications in enterprise, marketing or business.
IT	Year 10 Computer Science 9-1 GCSE	This year brings together skills learnt in year 9 to start to meet increasingly difficult exam requirements. Students learn network topologies with an in depth theoretical study required for paper 1. Students then cover knowledge across paper 2 with a larger focus on computational thinking. Students can build on year 8 and 9 practical skills by completing the NEA (Could be paper 3 TBC) practical project which is 20 hours of an OCR set practical programming project task
	Year 10 Creative iMedia Vocational	This year students start to bring together skills learnt in year 9 to start to meet increasingly difficult briefs. Students cover knowledge across the units, with a larger focus on RO81 and R082. Students will be entered for first attempt of exam (R082) in January year 10 and submit R082 (CA) at the end of year 10. This means students need a broad base of knowledge whilst not neglecting the preparations needed to allow them to succeed at as yet unknown CA briefs (2 more)Reinforcing knowledge built in years 7-9 and increasing the level of detail. Students need to be kept engaged and motivated during the demands of the assessment,. The aim is to foster a passion for iMedia together with resilience and independence when faced with an exam CA brief and the short time limits.
Business	Year 10 Business 9-1 GCSE	This year students study theme 2 which focuses on how a business develops beyond the start-up phase. Students concentrate on the key business concepts, issues and decisions used to grow a business, with an emphasis on aspects of marketing, operations, finance and human resources. Using real world case studies throughout, It also considers the impact of the wider world on the decisions a business makes as it grows.
IT	Year 11 Computer Science 9-1 GCSE	Completion of the specification form year 10 in term 1. Focus on Exam technique and revision of knowledge covered throughout the course
	Year 11 Creative iMedia Vocational	Jan Exam (June resit) CA x3, revision, revision. (TBC)
Business	Year 11 Business 9-1 GCSE	Students complete their learning of theme 2 concepts focusing on linking this with theme 1 revision and the interlinked nature of business. There is a focus on using timed exam practice, due to the mark and time ratio of the assessment (90 marks in 90 minutes) calculation practice will run through each week to embed the application of this knowledge in a range of contexts. (area of weakness for current year 11) (90 min 90 marks demands)

Year 7	Topic 1 Half term 1 & 2	Topic 2 Half term 3 & 4	Topic 3 Half term 5 & 6
	Topic: Online Safety Range of Software skills learning and application (introduction/development) How to stay safe: • Online • Mobile • Gaming • In app **Creation –** **Digital Posters** **Published poster (DTP skills)** **Links to Computer Science paper 1 & 2 Ethical issues** **iMedia Graphics R082**	**Topic: Computer systems** **What is inside a PC** **Networks and software** • Hardware and software • Input and outputs • Computer networks • Wireless networks • Data storage **Creation –** **Published leaflet Network Guide** **(Advanced DTP skills)** **Webbanner Advert** **Links to** **Computer Science paper 1** **IMedia Web and graphics design**	**Topic: Visual programming** • Algorithms • The fundamentals of games programming using Kodu Game Lab, • Drawing and sculpting a world, adding character and objects. • The use of When and Do instructions to control characters and objects including the use of paths and pages. **Creation –** • **Kodu Racing Game** (Once learners have built their skills they are required to design, create, test and evaluate their own game.) **Scratch Tennis and Underwater Game** **Links to Computer Science programming** **iMedia R092 CA**
	One class will follow a KS2/3 transition programme that is being trialled this year to address gaps identified during transition.		
	Christmas Creative Project		**Easter Enterprise Project**

Year 8	Topic 1 Half term 1 & 2	Topic 2 Half term 1 & 2	Topic 3 Half term 1 & 2
Topic 1 for this year only (Not previously covered in year 7)	**Topic:** Computer Systems **What is inside a PC** **Networks and software** • Hardware and software • Input and outputs • Computer networks • Wireless networks • Data storage **Software –Publisher and Adobe CSS** **Creation –** **Published leaflet Network Guide** **(Advanced DTP skills)** **Webbanner Advert** **Links to** **Computer Science paper 1** **IMedia Graphics**	**Topic:** Algorithms and Control Systems • • Flowcharts • • Sequencing • • Sensors • • Subroutines • • Actuators • • Variables **Software –Flowol** **Zebra Crossing Zebra Crossing** **Pelican Crossing (sub routine)** **Traffic Lights system** **Functional control systems to run mimics)** **(Lightouse/Greenhouse/Car park** **Creation –** **Flow charts and procedure** **Sub routines** **Functional control systems to run mimics** **Links to and builds on Visual programming - Scratch project year 7** **Computer Science paper 1**	**Topic:** Programming Advanced visual programming or programming language Python **Creation –** **Hunger Games** **Own Game (or GCSE previous brief)** **Quiz in Python** **Links to Computer Science Paper 2** **NEA/Paper 3 from 2022** **iMedia R092**
	Christmas Creative Project	**February Online Safety project** ***Save the date:*** *Safer Internet Day is on the* ***11th February 2020****! Safer Internet Day 2020 will be celebrated globally with the theme: '****Together for a better internet****'* ***Includes making n interactive webpage using Html***	**Easter Enterprise project**

Literacy	Numeracy	
All Computing curriculum area lessons begin with reading and comprehension of the Do Now tasks, many of which are literacy based, this is continued for objectives read individually and then aloud by specific students to support comprehension by all. **KS3** – There are many opportunities to identify the reliability of searches on the internet and to skim and scan websites to gather information, and this skill is modelled and reinforced across topics particularly as part of the E-safety learning. **KS4** – Students are modelled the skills of analysing sources both paper and online to extract key information from case studies or to create their own case study from research. Shared and group reading support the comprehension of new and subject vocabulary for business and enterprise. Exam command works and techniques are established and built upon to ensure comprehension and application.	Computing is a key to both learning and applying computational thinking and it is at KS3 that these skills are taught, practiced and embedded in order to build upon further up the school. It allows pupils to tackle problems, to break them down into solvable chunks and to devise algorithms to solve them. Calculations in a business context, including: • percentages and percentage changes • averages • revenue, costs and profit • gross profit margin and net profit margin ratios • average rate of return • cash-flow forecasts, including total costs, total revenue and net cash flow.	Interpretation and use of quantitative data in business contexts including: • information from graphs and charts • profitability ratios (gross profit margin and net profit margin) • financial data, including profit and loss, average rate of return and cash-flow forecasts • marketing data, including market research data • market data, including market share, changes in costs and changes in prices.

Contribution to students social, moral, spiritual, cultural, personal development & wellbeing

Social	Moral	Spiritual	Cultural	Personal development & wellbeing
Learning about the digital divide and the social issues that this presents. About social issues that can affect businesses, such as the response to negativity in the media relating to business practice, rising unemployment etc.	Learning about appropriate conduct of businesses and their staff, uses of company property both real and intellectual, malicious use of this property and the damage this can cause, and the safe and responsible conduct of a business	Offering the opportunity to consider how business has changed the way people go about their daily lives (including communication, shopping, entertainment, education and training, banking, social networking, online/remote working)	Helping learners to appreciate that businesses contribute to the development of our culture and are becoming increasingly central to our future ○ How cultural awareness of the audience needs to be shown when communicating in business	Students learn how the skills developed in their subjects are needed in the wider labour market, and that their enterprise and creative projects provide an outlet for creativity and expressions preparing them for the future. The impact of a positive mind-set is a focus throughout lessons and the department. Stress busters are run around exams and all concerns follow a clear follow up protocol.

Careers / Gatsby benchmark links. The GCSE Business and the Marketing and Enterprise programmes have specific				
Links to careers / jobs	Careers talk (possible contacts)	Career & labour market information	Workplace visit	Encounters with further / higher education
Computing display in the department and on the PE corridor demonstrate a full range of careers from across the full range of subjects. Pioneers of computer science are celebrated through a range of displays detailing their success. Options materials and links within lessons, reinforce. links to careers and further education	• PWC (Price Waterhouse Cooper) • Vodafone Digital challenge • Media City	Regular research by staff are undertaken to explore the changes in the Computer science and creative iMedia labour market and regularly inform pupils.	Year 8 Go Digital roadshow live visit, working with GCHQ and a range of Manchester companies focused on technology and STEM. PWC Enterprise Challenge and company visit. Vodafone Digital challenge day, Warrington.	Arranging for two past pupils to come and present to year 10 about college life and business and computer science courses Hackathon for year 9&10 students. Manchester University Business campus Enterprise day .

Year 9 Finance Unit 1 & 2	1.1-1.4 **Understand the role of the citizen in the UK and the relationship between society and the individual.**	2.1-2.4 **Understand the difference between money and income.**
Intent To provide students with the skills and knowledge to manage their money well and make sound financial decisions. As a Technical Award, the Level 2 Award in Financial Education (AiFE) provides an introduction to public finance and the economy, financial management skills and enterprise. Through developing this knowledge and a valuable range of applied and transferable skills, AiFE provides a foundation for further study in business and finance-related disciplines, as well as a wide range of other fields.	**Topic: 1** **Knowledge:** 1.1 Define the term citizen. 1.2 Outline the role and duties of a citizen in society in the UK. 1.3 Describe how government policies influence personal finance. 1.4 Describe the impact of different types of values held by UK citizens on personal finance choices.	**Topic: 2** **Knowledge:** 2.1 Define money. 2.2 Outline the sources and features of money. 2.3 Define income. 2.4 Outline the sources and features of income.

Year 9 Business Theme 1	1.1 Enterprise & Entrepreneurship	1.2 **Spotting a Business opportunity (includes 1.3 Business Aims and objectives**	1.4 **Making the business effective**	1.5 (part 1) **Understanding external influences on business**	1.5 (part 2) **Understanding external influences on business** 1.3 (part 1) **Putting a business idea into practice)**	1.3 **(part 2)** **Putting a business idea into practice**
Theme 1 concentrates on the key business concepts, issues and skills involved in starting and running a small business. It provides a framework for students to explore core concepts through the lens of an entrepreneur setting up a business.	**Topic:** Enterprise & Entrepreneurship **Knowledge:** • Dynamic nature of business • Risk & Reward • The role of Enterprise	**Topic: Spotting a Business opportunity** **Knowledge:** • Customer needs • Market Research • Market segmentation • The competitive environment • Business aims and objectives	**Topic: The options for start up and small business** **Knowledge:** • The options for start up and small business • Business location • The marketing mix • Business plans	**Topic: Understanding external influences on business** **Knowledge:** • Business stakeholders • Technology and business • Legislation and business	**Topic: Understanding external influences on business** **Knowledge(1.5)** • The economy and business • External influences **1.3 Putting a business idea into practice)** **Knowledge: (1.3)** • Business revenues, costs and profits	**Topic: Putting a business idea into practice** **Knowledge:** • Cash & Cash Flow • Sources of finance

Year 10 Business	1 **Topic 2.1 Growing the business**	2 **Topic 2.2 Making marketing decisions**	3 **Topic 2.3 Making product decisions**	4 **Topic 2.4 Making financial decisions**	5 **Entrepreneurial practical challenge**	6 **Topic 2.5 Making human resource decisions 5**
Theme 2 examines how a business develops beyond the start-up phase. It focuses on the key business concepts, issues and decisions used to grow a business, with an emphasis on aspects of marketing, operations, finance and human resources. It also considers the impact of the wider world on the decisions a business makes as it grows.	**Topic:** **Knowledge:** • Business growth • Changes in business aims and objectives • Business globalisation • Ethics the environment and business	**Topic:** **Knowledge:** • Product • Price • Promotion • Place • Using the marketing mix to make business decisions	**Topic:** **Knowledge:** • Business operations • Working with suppliers • Managing quality • The sales process	**Topic:** **Knowledge:** • Business calculations • Understanding business performance • Theme 1.3 calculations revisited	**Topic:** **Knowledge:** • Teamwork • Roles and responsibilities •	**Topic:** **Knowledge:** • Organisational structures • Effective recruitment • Effective training and development • Motivation
Diagnostics and revisions	**1.1** **1.2**	**1.2** **1.3**	**1.3**	**1.3**	**1.4**	**1.5**
	Financial 1.3 Business revenues, costs and profits		**Financial 1.5** Business Cash & Cash Flow, Sources of finance			

Year 11	1 **Topic 2.5 Making human**	2 Paper 1	3 Paper 1	4 Paper 1& 2 recap and	5 Paper 2 content and	6 **Examinations**

Business	**resource decisions 5**	1.1 & 1.2 recap and revision	1.3 & 1.4 Recap and revision	revision Focus from Mock exam analysis	case study ocus addressing any gaps in exam skills		
Theme 2 will be completed and a re-cap and revision system will focus on exam technique application and practice with case studies. Opportunities for wider business knowledge application will be a focus of directed study and reading.	**Topic:2.5** **Knowledge:** • Organisational structures • Effective recruitment • Effective training and development • Motivation	**Topic:** 1.1 & 1.2 **Knowledge:** • Dynamic nature of business • Risk & Reward • The role of Enterprise • Product • Price • Promotion • Place • Using the marketing mix to make business decisions	**Topic:1.3& 1.4** **Knowledge:** • The options for start up and small business • Business location • The marketing mix • Business plans Business revenues, costs and profits	**Topic:** **Knowledge:** • Business calculations • Theme 1.3 calculations revisited • Using the marketing mix to make business decisions	**Topic:** **Knowledge:** • Teamwork • Roles and responsibilities • **External influences** • **Global markets**	**Topic:** **Examinations**	
Diagnostics and revisions	**1.1** **1.2**	**1.3** **1.4**	**1.5** **2.1** **2.2**	**2.3** **2.4**	**2,5**		
	Financial 1.3 Business revenues, costs and profits		**Financial 1.5** Business Cash & Cash Flow, Sources of finance				
Year 9 Computer Science	1 Parts of a Computer	2 Data Representation	3 Introducing programming with Python	4 Databases	5 Networks	6 Ethical, legal, cultural and environmental issues in computing	
This introduction year to the qualification will allow students to: understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition,	**Links to - Paper 1** **Specification areas covered:** • **1.1 Systems Architecture** • **1.7 Systems Software** **Knowledge:**	**Links to -Paper 2** **Specification areas covered:** • **2.6 Data Representation**	**Links to - Paper 2 and Programming Project** **Specification areas covered:** • **2.2 Programming Techniques**	**Links to Paper 2** **Specification areas covered:** • **2.2 Programming Techniques** • **2.6 Data Representation**	**Paper 1** **Specification areas covered:** • **1.4 Wired and wireless networks** • **1.5 Network**	**Paper 1** **Specification areas covered:** • **1.8 Ethical, legal, cultural and environmental issues in computing.**	

logic, algorithms, and data representation	• The parts that make up a computer
	• General purpose and embedded computers.
	• History of Computing
	• Input-process-output
	• Hardware and software
	• Data units and calculating file sizes
	
	• the purpose and functionality of systems software
	• operating systems:
	  • User interface
	  • Memory Management/ multitasking
	  • Peripheral management and drivers
	  • User management
	  • File management
	  • Utility system software:
	  • Encryption software
	  • Defragmentation
	  • Data compression
	  • Full and incremental backups.
		Knowledge:
		• Binary numbers
		• Hexadecimal
		• Representing characters as binary.
		• Representing images as
		• Storing sound as binary.
		• Compression.
		
		Skills:
		• Converting between binary and denary.
		• Converting between denary and hexadecimal.
		• Converting between binary and hexadecimal
		• Binary Addition
			Knowledge:
			• Data Types
			• Variables
			• Input and output
			• Sequencing
			• Selection
			• Iteration
			• Lists/Arrays
			• Sub programs
			
			Skills:
			• Computational thinking
			• Abstraction
			• Decomposition
			• Debugging programming errors.
			• Python syntax
				Knowledge:
				• Why data needs to be ordered.
				• What a database is, why we use them and how they are used.
				• How databases store data using tables
				• The different data types used in databases.
				
				Skills:
				• Designing a database
				• Setting up a database in Microsoft Access.
				• Creating tables
				• Creating forms
				• Creating queries using Query by example (Access visual tools)
				• Creating queries with SQL
				• Creating reports
					topologies, protocols and layers
					• **1.6 System Security**
					
					Knowledge:
					• The types of network (LAN and WAN)
					• Factors that affect network performance
					• Client-server and peer to peer networks
					• Network hardware (routers, switches, NIC, transmission media, WAP)
					• How the internet is a collection of computer networks including DNS, hosting and the cloud.
					• The concept of virtual networks.
					• Network topologies (star and mesh)
					• Wi-Fi including frequency, channels and encryption.
					• Ethernet.
					• The uses of IP addressing, MAC addressing, and protocols.
					• The concept of layers
					• Packet switching.
					• Threats posed to networks.
					• Identifying and preventing vulnerabilities.
						Knowledge:
						• How key stakeholders are affected by technologies
						• Environmental impact of Computer Science
						• Cultural implications of Computer Science
						• Open source vs proprietary software
						• Legislation relevant to Computer Science:
						  ○ The Data Protection A 1998
						  ○ Computer Misuse Act 1990
						  ○ Copyright Designs and Patents Act 1988
						  ○ Creative Commons Licensing
						  ○ Freedom of Informati Act 2000.
						Skills:
						• How to investigate and disc Computer Science technolo while considering:
						  ○ Ethical issues
						  ○ Legal issues
						  ○ Cultural issues
						  ○ Environmental issues.
						  ○ Privacy issues.

Year 10 Computer Science	1 Von Neumann Architecture	2 Computational Logic	3 Searching and Sorting Algorithms	4 Programming with Python	5 Programming Project	6 Programming Project
This year students will	**Paper 1**	**Paper 2**	**Paper 2**	**Paper 2 and Programming Project**	**Programming**	**Programming**

develop knowledge and skills to analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs	**Specification areas covered:**
	• **1.1 System Architecture**
	
	Knowledge:
	
	• Von Neumann architecture:
	  • MAR (Memory Address Register)
	  • MDR (Memory Data Register)
	  • Program Counter
	  • Accumulator
	  • common CPU components and their function:
	  • ALU (Arithmetic Logic Unit)
	  • CU (Control Unit)
	  • Cache
	  • the function of the CPU as fetch and execute instructions stored in memory
	
	Skills:
	
	• Assembly language programming with Little Man Computer (LMC)
		Specification areas covered:
		• **2.4 Computational Logic**
		
		Knowledge:
		
		• Why data is represented in computer systems in binary form
		
		Skills:
		
		• Simple logic diagrams using the operations AND, OR and NOT
		• Truth tables
		• Combining Boolean operators using AND, OR and NOT to two levels
		• Applying logical operators in appropriate truth tables to solve problems
		• Applying computing-related mathematics:
		  ○ +
		  ○ –
		  ○ /
		  ○ *
		  ○ Exponentiation (^)
		  ○ MOD
		  ○ DIV
			Specification areas covered:
			• **2.1 Algorithms**
			
			Knowledge:
			
			• standard searching algorithms:
			  ○ binary search
			  ○ linear search
			• standard sorting algorithms:
			  ○ bubble sort
			  ○ merge sort
			  ○ insertion sort
			
			Skills:
			• Python programming skills
			• Computational thinking
			• Decomposition
			• Implement a linear search algorithm in Python.
			• Implement a binary search algorithm in Python.
				Specification areas covered:
				• **2.1 Algorithms**
				• **Programming project**
				
				Knowledge:
				• Data Types
				• Variables
				• Input and output
				• Sequencing
				• Selection
				• Iteration
				• Lists/Arrays
				• Sub programs
				
				Skills:
				• The use of variables, constants, operators, inputs, outputs and assignments
				• The use of the three basic programming constructs used to control the flow of a program:
				  ○ Sequence
				  ○ Selection
				  ○ Iteration (count and condition controlled loops)
				• The use of basic string manipulation
				• The use of basic file handling operations:
				  ○ Open
				  ○ Read
				  ○ Write
				  ○ Close
				• The use of arrays (or equivalent) when solving problems, including both one and two dimensional
				• The use of sub-Programs
				• The use of data types:
				  ○ Integer
				  ○ Floating Point
				  ○ Boolean
				  ○ Character and string
				  ○ Casting
				  ○ The common arithmetic operators: +
				  ○ the common Boolean operators: AND; OR; NOT
					Project
					
					Specification areas covered:
					• **Programming project**
					
					Knowledge:
					• Data Types
					• Variables
					• Input and output
					• Sequencing
					• Selection
					• Iteration
					• Lists/Arrays
					• Sub programs
					
					Skills:
					• Python programming skills
					• Computational thinking
					• Decomposition
					• Testing
					• Evaluating
					• Creating a flowchart
					• Analysing a brief
						Project
						
						Specification areas covered:
						• **Programming project**
						
						Knowledge:
						• Data Types
						• Variables
						• Input and output
						• Sequencing
						• Selection
						• Iteration
						• Lists/Arrays
						• Sub programs
						
						Skills:
						• Python programming skills
						• Computational thinking
						• Decomposition
						• Testing
						• Evaluating
						• Creating a flowchart
						• Analysing a brief

Year 11 Computer Science	1 Paper 1 revision	2 Paper 2 revision	3 Paper 1 and 2 revision	4 Paper 1 and 2 revision	5 Paper 1 and 2 revision	
Exam Technique and together with diagnostics of paper 1 learning in order to address any gaps Paper 2 learning will continue alongside re-caps and revision	**<u>Paper 1</u>** **Paper 1 diagnostics with re-cap to address gaps**	**<u>Paper 2</u>** **Paper 1 diagnostics with re-cap to address gaps**	**<u>Paper 1 and Paper 2</u>** **Addressing gaps from Mock analysis.**	**<u>Paper 1 and Paper 2</u>**		

Creative iMedia	1 **The purpose and content of pre-production**	2 **Plan pre-production**	3 **Produce pre-production documents Review pre-production documents**	4 & 5 **Creating digital graphics Practice project (10 hours)**	6 **Unit R092: Developing digital games Practice project (10 hours)**
The Cambridge Nationals in Creative iMedia will equip learners with a range of creative media skills and provide opportunities to develop, in context, desirable, transferable skills such as research, planning, and review, working with others and communicating creative concepts effectively. Through the use of these skills, learners will ultimately be creating fit-for-purpose creative media products. Creative iMedia will also challenge all learners, including high attaining learners, by introducing them to demanding material and techniques; encouraging independence and creativity and providing tasks that engage with the most taxing aspects of the Digital media and digital technological industry.	**R081 Purpose and use** **R082 produce pre-production documents** **Knowledge:** The purpose and uses for: • mood boards (e.g. ideas and concepts for a new creative media product development, assisting the generation of ideas) • mind maps/spider diagrams (e.g. to show development routes and options for an idea, or component parts and resources needed for a creative media product) • visualisation diagrams (e.g. for still images and graphics) • storyboards (e.g. for use with video, animation) • scripts (e.g. for a video production, voiceover, comic book or computer game)	**Topic RO81: Pre-production** **R082 – produce pre-production documents** **Knowledge:** How to interpret client requirements for pre-production (e.g. purpose, theme, style, genre, content) based on a specific brief (e.g. by client discussion, reviewing a written brief, script or specification) • identify timescales for production based on target audience and end user requirements • how to conduct and analyse research for a creative digital media product, i.e.: • using primary sources • using secondary sources legislation regarding any assets to be sourced, i.e.: • copyright • trademarks • intellectual property how legislation applies to creative media production, i.e.: • data protection • privacy • defamation • certification and classification • use of copyrighted material and intellectual property.	**Topic RO81: Pre-production** **R082 – produce pre-production documents** **Knowledge:** identify appropriate file formats needed to produce: • pre-production documents • final products in line with client requirements. The properties and limitations of file formats for still images The properties and limitations of file formats for audio The properties and limitations of file formats for moving images, i.e.: • video • animation Suitable naming conventions (e.g. version control, organisational requirements). **Topic: R082 -** **Knowledge:** How to review a pre-production document (e.g. for format, style, clarity, suitability of content for the client and target audience) • How to identify areas for improvement in a pre-production document (e.g. colour schemes, content, additional scenes).	Topic: R082 -Graphics Plan the creation of digital graphics, create new digital graphic Basics of digital graphics editing for the creative and digital media sector. • Where and why digital graphics are used and what techniques are involved in their creation. • Understanding of the client brief, time frames, deadlines and preparation techniques as part of the planning and creation process. • Application of the purpose and properties of digital graphics, (where and how they are used)	**Topic RO92: Developing Digital Games** **Knowledge:** The capabilities and limitations of a range of software used for 2D and 3D game creation (e.g. game engines, game editors, app development, software development kits (SDK)) The range of hardware and peripherals required to create and test digital games (e.g. computer systems, speakers, interface controls, simulator, target platform test bed). software features needed for the creation of a game (e.g. use of libraries, drag and drop, object properties, event and actions, triggers, collisions) **Skills:** • use geometric parameters to manipulate objects and environments (e.g. conversion, scale, creation, grid settings, spatial relationships) • use geometric parameters to manipulate objects and environments (e.g. conversion, scale, creation, grid settings, spatial relationships) • edit properties to set parameters of objects and environments (e.g. names, transparency, visibility, effects, colour, textures) • create game-play controls (e.g. mouse/keyboard, dialogue activation, start/pause/exit facilities) • use algorithms in relevant areas (e.g. scoring systems, timing systems, game triggers, speed) • save appropriate to the game development software being used • export and publish in a format that is playable on a different computer system
	Skills: **produce a work plan for an original graphics creation; to include:** **o tasks** **o activities** **o workflow**		**Skills:** **• create a digital graphic using a range of tools and techniques within the image editing software application (e.g. cropping, rotating, brightness, contrast, colour adjustment)** **• ensure the technical compatibility of assets with the final graphic (e.g.**		

	o timescales **o resources** **o milestones** **o contingencies** **• produce a visualisation diagram for a digital graphic** **• identify the assets needed to create a digital graphic (e.g. photographs, scanned images, library images, graphics, logos)** **• identify the resources needed to create a digital graphic (e.g. digital camera, internet, scanner, computer system and software).**	**pixel dimensions, dpi resolution)** **• save a digital graphic in a format appropriate to the software being used** **• export the digital graphic using appropriate formats and properties for** **• print use** **• web use** **• multimedia use.** **• review a digital graphic against a specific brief** **• identify areas in a digital graphic for improvement and further development (e.g. cropping, rotating, brightness, contrast, levels, colour adjustment).**	

Creative iMedia	1 **The purpose and content of pre-production**	2 **Plan & produce pre-production** CA Task	3&4 **Creating digital graphics** **CA Task**	5& 6 **Unit R092: Developing digital games** **CA Task**
This year students will complete the Award for OCR Creative I Media, they will sit a written paper in January 2020 and complete the R082 graphics set coursework	**<u>R081 Purpose and use</u>** **<u>R082 produce pre-production documents</u>** **Knowledge:** The purpose and uses for: • mood boards (e.g. ideas and concepts for a new creative media product development, assisting the generation of ideas) • mind maps/spider diagrams (e.g. to show development routes and options for an idea, or component parts and resources needed for a creative media product) • visualisation diagrams (e.g. for still images and graphics) • storyboards (e.g. for use with video, animation) • scripts (e.g. for a video production, voiceover, comic book or computer game)	**<u>Topic RO81: Pre-production</u>** **<u>R082 – produce pre-production documents</u>** **Knowledge:** How to interpret client requirements for pre-production (e.g. purpose, theme, style, genre, content) based on a specific brief (e.g. by client discussion, reviewing a written brief, script or specification) • identify timescales for production based on target audience and end user requirements • how to conduct and analyse research for a creative digital media product, i.e.: • using primary sources • using secondary sources legislation regarding any assets to be sourced, i.e.: • copyright • trademarks • intellectual property how legislation applies to creative media production, i.e.: • data protection • privacy • defamation • certification and classification • use of copyrighted material and intellectual property.	Topic: R082 -Graphics Plan the creation of digital graphics, create new digital graphic Basics of digital graphics editing for the creative and digital media sector. • Where and why digital graphics are used and what techniques are involved in their creation. • Understanding of the client brief, time frames, deadlines and preparation techniques as part of the planning and creation process. • Application of the purpose and properties of digital graphics, (where and how they are used)	**<u>Topic RO92: Developing Digital Games</u>** **Knowledge:** The capabilities and limitations of a range of software used for 2D and 3D game creation (e.g. game engines, game editors, app development, software development kits (SDK)) The range of hardware and peripherals required to create and test digital games (e.g. computer systems, speakers, interface controls, simulator, target platform test bed). software features needed for the creation of a game (e.g. use of libraries, drag and drop, object properties, event and actions, triggers, collisions) **<u>Skills:</u>** • use geometric parameters to manipulate objects and environments (e.g. conversion, scale, creation, grid settings, spatial relationships) • use geometric parameters to manipulate objects and environments (e.g. conversion, scale, creation, grid settings, spatial relationships) • edit properties to set parameters of objects and environments (e.g. names, transparency, visibility, effects, colour, textures) • create game-play controls (e.g. mouse/keyboard, dialogue activation, start/pause/exit facilities) • use algorithms in relevant areas (e.g. scoring systems, timing systems, game triggers, speed) • save appropriate to the game development software being used

				• export and publish in a format that is playable on a different computer system
	Skills: **produce a work plan for an original graphics creation; to include:** **o tasks** **o activities** **o workflow** **o timescales** **o resources** **o milestones** **o contingencies** **• produce a visualisation diagram for a digital graphic** **• identify the assets needed to create a digital graphic (e.g. photographs, scanned images,** **library images, graphics, logos)** **• identify the resources needed to create a digital graphic (e.g. digital camera, internet, scanner, computer system and software).**		**Skills:** **• create a digital graphic using a range of tools and techniques within the image editing software application (e.g. cropping, rotating, brightness, contrast, colour adjustment)** **• ensure the technical compatibility of assets with the final graphic (e.g. pixel dimensions, dpi resolution)** **• save a digital graphic in a format appropriate to the software being used** **• export the digital graphic using appropriate formats and properties for** **• print use** **• web use** **• multimedia use.** **• review a digital graphic against a specific brief** **• identify areas in a digital graphic for improvement and further development (e.g. cropping, rotating, brightness, contrast, levels, colour adjustment).**	

Enterprise and Marketing	1 **Understand how to target a market**	2 **Understand what makes a product or service financially viable**	3 & 4 **Enterprise** **Understand product development & Practice Enterprise project (10 hours)**	5 **Understand how to attract and retain customers**	6 **Understand factors for consideration when starting up a business**
The Cambridge Nationals in Enterprise and Marketing In year 9 Students explore the techniques businesses use to understand their market and develop products, investigate what makes a product viable and understand how businesses attract and retain customers By completing this unit, learners will understand the main activities that will need	**R064** **Knowledge:** 1.1 The need for customer segmentation, i.e. customers vary • because of the: • Benefits they require • Amount of money they are able/willing to pay • Quantity of goods they require • Quality of goods they require • Time and location they wish to purchase	**R064** **Knowledge:** A range of factors that affect the viability of products or services, i.e. 2.1 Cost of producing the product or service, i.e. • Fixed costs i.e. costs that do not vary with output, i.e. - rent - loan repayment - insurance - advertising - salaries - utilities • Variable costs i.e. costs that do vary with output i.e. - raw materials - components - stock	**R064 & R065** **Knowledge:** 3.1 The product lifecycle , i.e. • Development • Introduction • Growth • Maturity • Decline 3.2 Extension strategies for products in the product lifecycle and the appropriateness of each, i.e. • Advertising • Price changes • Adding value (e.g. improving the specification of an existing product) • Exploration of new markets (e.g. new geographic market, new target markets) • New packaging	**R064** **Knowledge:** 4.1 Factors to consider when pricing a product to attract and retain customers, i.e. • Income levels of target customers • Price of competitor products • Cost of production 4.2 Types of pricing strategies and the appropriateness of each, i.e. • Competitive pricing • Psychological pricing • Price skimming • Price penetration 4.3 Types of advertising methods	**R064** **Knowledge:** 5.1 Appropriate forms of ownership for business start-ups, i.e. • Sole trader • Partnership, including limited liability partnerships • Franchise • Features of each form of ownership, i.e. - Owners - Basic legal requirements to start the business (e.g. business registration, HMRC) - Liability, i.e. o limited o unlimited - Responsibility for decision making - Distribution of profit to the owners 5.2 Source(s) of capital for business start-ups, i.e. • own savings • friends and family • loans • crowdfunding • small business grants • business

to happen to support a start-up business and what the key factors are to consider when starting up a business. Learners will understand how and why customer segmentation is used and how to target a customer market. They will also develop an understanding of how to attract and retain customers, the techniques to use when developing products and how to investigate what makes a product viable. These elements will provide learners with underpinning knowledge and understanding for completion of Units R065 and R066 within this qualification, as well as developing transferable knowledge and understanding to allow for progression onto related study.	the goods 1.2 Types of market segmentation, i.e. • Age • Gender • Occupation • Income • Geographic • Lifestyle 1.3 The benefits of market segmentation, i.e . • Ensures customer needs are matched and met • Potential for increased profits/profitability • Increased customer retention • Allows for targeted marketing • Potential for an increase in market share 1.4 The purpose of market research, i.e. • To reduce risk • To understand the market • To promote the organisation • To aid decision making • To gain customers' views and understand their needs • To inform product development 1.5 Primary (field) market research methods (physical or digital) and their benefits, i.e. • Observations • Questionnaires • Surveys • Focus groups • Consumer trials 1.6 Secondary (desk) market research sources and their benefits, i.e. • Internal data • Books/newspapers/trade magazines • Competitors' data • Government publications and statistics • Purchased research material (e.g. Mintel)	- packaging • Total costs i.e. fixed costs + variable costs 2.2 Revenue generated by sales of the product or service, i.e . • How to calculate total revenue (Selling price x Number of sales) 2.3 Use of break-even as an aid to decision making, i.e. • Definition of break-even - i.e. the level of output where Total revenue = Total costs • Break-even formula - i.e. Fixed costs Selling price per unit - Variable cost per unit • Break-even graphs - interpretation of a break-even graph in order to identify the break-even point • How break-even information is used 2.4 Profit level, i.e. • How profit per unit is calculated - i.e. Revenue (selling price) per unit - Total costs per unit • How profit is calculated for a given level of output - i.e. Sales revenue - Total costs	4.5 How customer service is used to attract and retain customers, i.e. • Product knowledge • Customer engagement (e.g. presentation, communication skills) • After sales service 3.3 How to create product differentiation, i.e. • Establishing a strong brand image for goods or services • Design mix model - i.e. the variables that contribute to successful product design - function, cost and appearance • Identifying a clear unique selling point (USP) • Offering improved: - Location - Features - Functions - Design - Appearance - Selling price 3.4 The impact of external factors on product development, i.e. • Technological developments (e.g. developments in technology that affect production capabilities and consumer preferences) • Economic issues (e.g. recession, boom and their effects) • Legal issues (e.g. copyright and patent, product safety standards)	used to attract and retain customers and the appropriateness of each, i.e. • Leaflets • Social Media • Websites • Newspapers • Magazines • Radio 4.4 Sales promotion techniques used to attract and retain customers and the appropriateness of each, i.e. • Discounts • Competitions • Buy one get one free (BOGOF) • Point of sale advertising • Free gifts/product trials • Loyalty schemes	angels 5.3 The importance of a business plan, i.e. • Why a business plan is needed, i.e. - to clarify a business idea to others (e.g. to secure funding) - to measure progress towards goals (e.g. timescales, sales forecasts) - to help manage cash flow - to help identify potential problems (e.g. financial shortages) • What the business plan should detail, i.e. - business objectives - business strategies - sales plan - marketing plan - financial forecasts **6.1** The purpose of each of the main functional activities that may be needed in a new business, i.e. • Human Resources, i.e. - responsible for all aspects of managing individuals who work within a business • Marketing, i.e. - responsible for identifying the needs and wants of business customers and developing products/services to meet those needs • Operations, i.e. - organising the process that turns inputs into outputs/finished goods that can be sold to customers • Finance, i.e. - managing the financial resources in a small business and reporting on financial performance **6.2** The main activities of each functional area, i.e. • Human Resources, i.e. - Recruitment and selection of employees - Training and development of employees - Performance management of employees - Responsibility for health and safety in the workplace - Ensuring compliance with employment legislation • Marketing, i.e. - Market research o i.e. to research the market and find out customer opinions - Developing a marketing mix: Product, Price, Place, Promotion (4Ps) • Operations, i.e. - Production planning. - Producing the product or service - Quality control - Stock control - Logistics • Finance, i.e. - Organisation and allocation of financial resources - Financial performance reporting - Monitoring of cash flow