Cliff Park ORMISTON ACADEMY

Progression Grid 2021: Computing

Pre Year 7		
The main focus of KS2 (lower years) is to give pupils a foundation understanding of how computers work, including programming, software and hardware, and the role of networks in the internet. They also cover safe use of technology and internet searching. Pupils should be taught to: ● design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ● use sequence, selection, and repetition in programs; work with variables and various forms of input and output ● use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ● understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration ● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ● select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Interventions/support in place: Limited information received from schools, but coverage seems varied. Some pupils have studied programming through scratch. Most pupils have used a variety of computer devices in school. Internet searching using simple search tools (textease, Google) Internet safety No assumption can be made about how much coverage pupils have made before attending Cliff Park High School: some pupils show little knowledge of using a mouse, while some have covered a wide range of programming and software topics.	

Year 7						
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic/Focus (2 hrs per fortnight)	Autumn 1: Esafety presentation Esafety (5i) Creative projects (7) Digital literacy (8)	Autumn 2: Gorleston Tourist Board Presentation Esafety (5i) Creative projects (7) Digital literacy (8)	Spring 1: Microbit blocks algorithms(2) programming(3) logic(4) hardware(5) Data(6)	Spring 2: Scratch Game algorithms(2) programming(3) Data(6) Creativity (7)	Introduction to computers hardware (5) Data (6) Programming (3)	Summer 2: Spreadsheet modelling modelling(1) algorithms(2) data(6)

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Sequencing	After an introductory session looking at using computers and storing work (to make sure all pupils can access and save work and are aware of safe working practice), , and a baseline test (to assess previous knowledge from ks2) pupils create a presentation covering key information about how to stay safe using computers and using the internet. Pupils practice safe searching, using presentation software to share ideas and saving work in an organised way.	This unit builds on 1st unit by providing a real world brief to work to, allowing pupils to apply the learning of the previous unit. The unit also leads towards the ks4 imedia course skills of research, plan, make and review	This unit introduces computational thinking, algorithms and black based programming, with reference to ks2 programming coverage. The use of microbits allows the role of different hardware components to be introduced (followed up in year 8 in the intro to computing unit).	This unit builds on unit 3 by using the BAFTA ygd competition http://ygd.bafta.org/ as a creative launchpad for pupils to apply and further develop their programming and computational knowledge, using software that some have knowledge of from ks2.	This unit focuses on computers, how and why they have developed, the purpose and function of components, how binary and switches are used to represent data and information on computers. It builds on y7 microbit unit in particular, and leads into ks4 comp[uter science, in particular units 4,5,and 6	This unit builds on the data aspects of the previous units, but focuses on developing vocational IT skills, particularly using spreadsheets. Pupils learn how data can be used to model the real world. They gain skills to allow data to be manipulated and graphically shown, as well as error checking and interpretation of data. This part of the course is designed to develop vocational skills and skills for using computers for other subjects in ks4.
Extended Learning	Whole school homework booklet.	Whole school homework booklet.,	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/	Whole school homework	Whole school homework booklet., computer club,.	Whole school homework

		computer club, BEBRAS competition http://www.bebras.uk/		booklet., computer club, http://ygd.bafta.org/	Norfolk ScratchOff competition https://www.eventbrite.co.uk/e/cas-secondary-norfolk-scratch-off-2020-in-partnership-with-the-uea-tickets-98278823607?aff=erelexpmlt	booklet., computer club,.
Cultural capital	Tim Berners-Lee (creator of the world wide web)	Bill Gates (Microsoft founder)	Alan Turing, (concept of electronic computer) Ada Lovelace (first programmer), Grace Hopper (creator of debugging)	Bletchley Park - site of creation of 1st colossus	Bletchley Park, Colossus, Alan Turing, Tommy Flowers, ww2, the influence of encryption and encrypted tech on society	Harry Potter, JK Rowling, financial well being, debt
Formal Assessment	Multichoice baseline knowledge test at beginning of course covering all key knowledge for ks3. Multichoice knowledge test covering 5i, 7 and 8 Presentation assessed against 5i, 7, 8	Multichoice knowledge test covering 5i, 7 and 8 (with imedia focus) Presentation assessed against 5i, 7, 8	Multichoice knowledge test covering 2,3,4,5, and 6 (with computer science focus) programming challenges assessed against 2 and 3	Multichoice knowledge test covering 2,3,4,5, and 6 (with computer science focus) Game design assessed against 2, 3 and 7	multichoice quiz, Computers research assessment KPI 3,5,6	Multichoice knowledge test covering 5i, 7 and 8 (with imedia focus) Presentation assessed against 5i, 7, 8
Year 8						
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic (2 hrs per fortnight)	Micropython algorithms(2) programming(3) logic(4) hardware(5) Data(6)	Photoshop skills Esafety (5i) Creative projects (7) Digital literacy (8) Link to imedia RO87	Cybersafe Screensaver + Cybercareers info sheet Creative Projects and Digital Authoring (Skills 7, 8) Link to imedia RO87 multimedia and RO81 pre-preparation	Band manager Spreadsheet modelling modelling(1) algorithms(2) data(6)	Websites and networks hardware - networks and internet (5-b) internet safety (5i) Creativity (7) Digital authoring (8)	Codebreakers and programmers modelling(1) algorithms(2) programming(3) logic(4) hardware(5) Esafety (5i) Data(6)
Sequencing	Building on y7 microbit unit and the intro to computers unit, covering computational thinking, algorithms and black based programming, the	This unit is focussed on developing graphics, with a	This unit is focussed on developing project planning and multimedia , with a view to giving pupils	This unit builds on the year 7 Harry Plotter	This unit builds on year 7 and 8 programming units, as well as elements of e-safety, photoshop and intro to computers units. IT	This unit aims to provide a focus on computational

	role and function of different hardware components.	view to giving pupils foundation skills and graphic understanding for ks4 media	foundation skills and graphic understanding for ks4 media	unit using spreadsheets. Pupils learn how data can be used to model the real world. They gain skills to allow data to be manipulated and graphically shown, as well as error checking and interpretation of data. This part of the course is designed to develop vocational skills and skills for using computers for other subjects in ks4.	aims to apply this learning in building websites, with a view to developing skills required for the imedia RO85 topic, as well as gaining knowledge useful for computer science topic 4 (networks). It also aims to give pupils a clear idea of how programming and web design and networking knowledge is applied in real-world situations.	thinking, decomposition and abstraction and puzzle solving, key thinking skills identified for KS4 computer science, but also highly transferable skills for other subjects and for more independent work needed beyond formal education.
Extended Learning	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/		Whole school homework booklet., computer club, BEBRAS competition	Whole school homework booklet., computer club, BEBRAS competition	Whole school homework booklet., computer club,
Cultural capital	Impact of programming and automation on jobs market. Influence and morality of AI	Andy Warhol, Banksie, Van		Florence Nightingale - creator of new	Tim Berners-Lee British creator of html and world wide web	Alan Turing, Bletchley Park

		Gogh, David Hockney		data graphic representation methods, Jon Snow - epidemiologist,		
Formal Assessment	multichoice quiz, Programming task assessment KPI 2,3,4,5,6	multichoice quiz, photoshop classwork assessment KPI 5i, 7,8		multichoice quiz, Band manager 1 lesson assessment KPI 1,2,6	multichoice quiz, Website assessment KPI 5, 5i, 7, 8	End of year 8 assessment covering all ks3 key knowledge, multichoice quiz, codebreaker extended task KPI 1 - 6

Year 9						
Qualification	Through the year in year 9 pupils work towards iDea badge qualifications - available and bronze and silver (gold still in development) https://idea.org.uk/about					
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic/Focus B - 3h/fortnight	Illustrator unit Vector graphic creation, graphic design principles, use of vector graphics	Computer science taster using microbits	Kiosk to the museum of you. Research, plan, make, review. Multimedia product design	Graphics for the Web	Website creation	Learning for imedia exam/office skills - with real life theme - cvs, budgets for home, promoting business
Sequencing	Builds on year 8 photoshop work. New software introduced. Building on knowledge of image storage - KS4: CS unit 3, imedia RO81, imedia RO82)	Builds on year 7 and 8 work on programming, data and computer hardware and software and networks. Broad visitation to all	This unit builds on graphic units and also on the powerpoint work done in years 7 and 8, as well as planning and reviewing work regularly visited throughout ks3 learning. It leads towards imedia coursework with its 4 outcomes - LO1 - research, LO2 - planning, LO3 -	This unit builds on graphic units and also on the website unit in year 8. It leads towards imedia coursework. This unit is a version	This unit builds on graphic units and also on the website unit in year 8 and follows on from the previous year 9 unit. It leads towards imedia coursework. This unit is a version of imedia unit RO85 in miniature. It also links to CS unit 4 networks.	This unit aims to apply a wide range of vocational IT skills (including Microsoft Office software, building on Powerpoint,

		CS units (units 1 - 7)	product creation, LO4 - review. This unit is a version of imedia unit RO87 in miniature.	of imedia unit RO82 in miniature. IT then provides graphics to be used in the next year 9 unit. It also links to CS units 3 (data) and 4 (networks).		Word and Excel work in years 7 and 8). It also covers preproduction techniques and knowledge useful for imedia RO81.
Extended Learning	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk/	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk	Whole school homework booklet., computer club, BEBRAS competition http://www.bebras.uk/ https://idea.org.uk
Cultural Capital	Wide range of logos, Harry Beck designer of London Underground Map, Rocksteady Games https://rocksteadyltd.com/#splash,	Tim Berners-Lee	David Attenborough, Natural History Museum		Tim Berners-Lee	Bill Gates, Font design,
Formal Assessment	https://idea.org.uk/bronze Classwork assessed against imedia criteria for RO82 LO1, 2, 3, 4	https://idea.org.uk/ Classwork assessed against KS3 KPIs 1 to 6	https://idea.org.uk/bronze Classwork assessed against imedia criteria for RO87 LO1, 2, 3, 4	https://idea.org.uk/bronze Classwork assessed against imedia criteria for RO82 LO1, 2, 3, 4	https://idea.org.uk/bronze Classwork assessed against imedia criteria for RO85 LO1, 2, 3, 4	https://idea.org.uk/bronze Office skills applied knowledge test (based around Cliff Park Computer Driving Licence test) Assessment of classwork

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						against RO81 knowledge.
Year 10 imedia						
2 year course (120 guided learning hours)	Cambridge National in Creative iMedia equips students with the wide range of knowledge and skills needed to work in the creative digital media sector. They start at pre-production and develop their skills through practical assignments as they create final multimedia products. https://www.ocr.org.uk/qualifications/cambridge-nationals/creative-imedia-level-1-2-award-certificate-j807-j817/					
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic/Focus (4 hrs per fortnight)	imedia practice graphics unit - Recipe card	imedia Graphics research and planning	imedia Graphics - making and reviewing	imedia Website practice and research. Plan website	imedia Finish Planning and building website + review	imedia research + plan multimedia RO87
Sequencing	Builds on photoshop and illustrator work in years 8 and 9, as well as practice imedia work. KS4 focus on RO82 Graphics LO1 research, 2 planning, 3 making and 4 review. Unit in miniature.	Start R0 82 - magazine advert (assignment 3) - builds on preparation for imedia in year 9, and before. LO1 research and LO2 planning to be completed.	R0 82 - magazine advert (assignment 3) - builds on preparation for imedia in year 9, and before. LO3 graphic creation (using photoshop and illustrator) and LO4 review to be completed.	Start R0 85 - website(assignment tbc) - builds on preparation for imedia in year 9, and before. LO1 research and LO2 planning to be completed.	R0 85 - complete website and review - builds on preparation for imedia in year 9, and before. LO3 building and LO4 reviewing to be completed.	Start R0 87 - multimedia product (assignment tbc) - builds on preparation for imedia in year 9, and before. LO1 research and LO2 planning to be completed.
Extended Learning	Practice exam questions and labelled visualisation and design work - set out in booklet.	Practice exam questions. NB no work at home can be included in coursework, with the exception of primary source assets (eg pictures taken at home)	Practice exam questions. NB no work at home can be included in coursework, with the exception of primary source assets (eg pictures taken at home)	Practice exam questions. NB no work at home can be included in coursework, with the exception of primary source assets (eg pictures taken at home)	Practice exam questions. NB no work at home can be included in coursework, with the exception of primary source assets (eg pictures taken at home)	Start R0 85 - website(assignment tbc) - builds on preparation for imedia in year 9, and before. LO1 research and LO2 planning to be completed.

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Formal Assessment	Assessed against RO82 marking criteria for learning outcomes 1-4.	Assessed against RO82 marking criteria for learning outcomes 1 and 2. Progress tracking used for feedback.	Assessed against RO82 marking criteria for learning outcomes 3 and 4. Progress tracking used for feedback.	Assessed against RO85 marking criteria for learning outcomes 1 and 2. Progress tracking used for feedback.	Assessed against RO85 marking criteria for learning outcomes 3 and 4. Progress tracking used for feedback.	Assessed against RO87 marking criteria for learning outcomes 1 and 2. Progress tracking used for feedback.
Year 11 imedia						
2 year course (120 guided learning hours)	Cambridge National in Creative iMedia equips students with the wide range of knowledge and skills needed to work in the creative digital media sector. They start at pre-production and develop their skills through practical assignments as they create final multimedia products. https://www.ocr.org.uk/qualifications/cambridge-nationals/creative-imedia-level-1-2-award-certificate-j807-j817/					
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic/Focus (2 hrs per fortnight)	imedia create + review multimedia RO87	Exam preparation	Completing RO82, RO85, RO87.	Revise for final exam. Completing RO82, RO85, RO87.	Intervention. Coursework final catch up	
Sequencing	R0 82 - magazine advert (assignment 3) - builds on preparation for imedia in year 9, and before. LO3 graphic creation (using photoshop and illustrator) and LO4 review to be completed.	Uses planning and other work from other imedia units to provide knowledge and application. Exam techniques practiced and real world examples explored	Using self review to complete and improve coursework units. NB 2nd attempt at examination available in June, so regular revisiting of exam knowledge is also included.	Using self review to complete and improve coursework units. NB 2nd attempt at examination available in June, so regular revisiting of exam knowledge is also included.	Focus on examination and coursework completion - leads to college and FE.	
Extended Learning	Practice exam questions. NB no work at home can be included in coursework, with the exception of	Practice exam questions. Booster session.	RO81 Booster session before exam. Focussed intervention on pupils that fall behind.	Focussed intervention on pupils that fall behind.	RO81 Booster session before exam. Focussed intervention on pupils that fall behind.	

	primary source assets (eg pictures taken at home)					
Formal Assessment	Assessed against RO87 marking criteria for learning outcomes 3 and 4	November mock assessed using RO81 marking criteria. Real exam in January.	Progress tracking used for feedback.	Progress tracking used for feedback. Coursework criteria used for marking.	Examination in May. Coursework criteria used for marking.	
Year 10 Computer Science						
	This specification has been created to get students working with real-world programming and provides a good understanding of the fundamental principles of computing. It focusses on computational thinking, decomposition and abstraction. This provides an academically challenging specification for students of all ability levels. It has a non-examined assessment based around Python programming project creation, as well as a computational thinking paper, and a theoretical computing knowledge paper https://www.aqa.org.uk/subjects/computer-science-and-it/gcse/computer-science-8520/specification-at-a-glance					
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	Summer 2:
Topic/Focus (4 hrs per fortnight)	Unit 1: Algorithms and problem solving	Unit 2: Programming	Unit 3: Data representation	Unit 4: Computer systems	Unit 5 Computer networks	Unit 6 cybersecurity + Unit 7 ethical legal and environmental impacts of computers
Sequencing	Unit 1 and unit 2 build on work done in year 8 and 9 on programming (Scratch, Python etc) as well as the introduction to computer science microbit uit in year 9. They lead towards the NEA and towards paper 1 in particular.	Unit 1 and unit 2 build on work done in year 8 and 9 on programming (Scratch, Python etc) as well as the introduction	Unit 3 builds on work done with graphics, as well as year 7 and 8 spreadsheet work. It includes understanding of binary as well as how computers represent and compress text, sound and image information. Therefore it builds on the imedia preparation too.	Unit 4 builds on work in year 8 on computer hardware and software, as well as microbit work. Pupils gain understanding	Unit 5 builds on website building work, as well as the year 9 microbit work. The unit covers how hardware and software, layers and protocols are used to allow communication between computers.	Unit 6: this unit links to PSHE and whole school work on esafety, as well as units such as year 7 esafety. It also links very

		to computer science microbit uit in year 9. They lead towards the NEA and towards paper 1 in particular.		of how hardware and software operate together, including within the CPU. It therefore luies at the heart of understanding computer functionality.		closely to the previous computer science unit (networks), and elements of it are taught concurrently. Unit 7: this unit is quite short. It covers the law, environment and ethics, so links to PSHE, as well as personal social spiritual and moral aspects of all computing lessons.
Extended Learning	Programming practice tasks	Programming practice tasks	Extended learning booklet	Extended learning booklet	Extended learning booklet	Extended learning booklet
Cultural Capital	Ada Lovelace, Charles Babbage, Jacquard loom	Grace Hopper, Alan Turing, Python	Big Data,	Englebert, Von Neumann, Turing, Flowers, Babbage, Jobs, Gates	Tim Berners-Lee	CEOP, The law and environment
Formal Assessment	Unit assessment based on unit 1	Practice miniNEA assessment. Short assessment based on paper 1 exam questions.	Unit assessment - exam style questions.	Unit assessment - exam style questions.-	Unit assessment - exam style questions.	End of year assessment covering all units (1-7) made up of sample questions from paper 1 and paper 2
Year 11 computer science						

	This specification has been created to get students working with real-world programming and provides a good understanding of the fundamental principles of computing. It focusses on computational thinking, decomposition and abstraction. This provides an academically challenging specification for students of all ability levels. It has a non-examined assessment based around Python programming project creation, as well as a computational thinking paper, and a theoretical computing knowledge paper https://www.aqa.org.uk/subjects/computer-science-and-it/gcse/computer-science-8520/specification-at-a-glance					
	Autumn 1:	Autumn 2:	Spring 1:	Spring 2:	Summer 1:	
Topic/Focus (4 hrs per fortnight)	NEA and mock preparation: Concurrent coverage of NEA skills and preparation for mock exams - using examination questions to revisit learning for units 1 - 7.	NEA and mock preparation: Concurrent coverage of NEA skills and preparation for mock exams - using examination questions to revisit learning for units 1 - 7.	NEA submission in early January. Revisiting units 1-4 based on mock feedback. Revision units focussed on areas of weakness identified - this half particularly on paper 1.	Revisiting units 3-7 based on mock feedback. Revision units focussed on areas of weakness identified - this half particularly on paper 2.	Final revision	
Sequencing	NEA - units 1 and 2 coverage are the main focus along with 8 and 9, but other units relevant.	NEA test table and program completed, building on Python work in year 10 and learning in year 10 for units 1 and 2. Mock revision building on year 10 learning	Sequence decided by mock results- generally paper 1 is practised by completing paper 1 questions, paper 2 is helped by knowledge acquisition for units 3-7. the learning links directly to A level computer science.	Sequence decided by mock results- generally paper 1 is practised by completing paper 1 questions, paper 2 is helped by knowledge acquisition for units 3-7. the learning links	Preparation based on previous 2 year course.	

				directly to A level computer science		
Extended Learning	Practice exam questions. Home programming practice.	Revision and home research to inform programming design. NEA catch up classes offered	knowledge grids and exam questions set for home tasks	knowledge grids and exam questions set for home tasks. Intervention and catch up classes		
Formal Assessment	NEA part 1 completed (project design) Half term assessment based on practice exam questions from papers 1 and 2 for units 1-7	NEA part 2 complete. Mock using past papers for paper 1 and paper 2	End of half term assessment based on exam questions.	**Mock papers for paper 1 and 2**	Final examinations - paper 1 and paper 2 - in May	
Post year 11						
	imedia course leads on to Graphic design, web design, pure art and animation, game design, media, advertising as well as soft skills required by many jobs. The software knowledge would be useful for any business or charity. It is applicable to a wide range of college and FE courses, particularly those with visually creative and design based elements. Computer science leads on to network support, programming, scientific investigation, big data, game design, computer design. It is applicable to college and FE courses, such as computer science, sciences, and courses that relate to computer technology. Because the course includes computational thinking skills, it also has wider applications and would help (perhaps less directly) with a wide range of courses.					