ICT and Computing

Curriculum Intent:

What a Wymondham College student learns and why they learn it:

A high-quality Computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing is a discipline rooted in three main traditions: engineering, maths and science. Computing can give young people skills for life, within Computer Science, from problem solving, how digital systems work and practically through programming, Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. Our students should be masters of technology, not slaves to it.

How the curriculum fits in to the College's FABRIC?
Focused – regularly evaluated for improvement. Reacts to what students know/don't know and can / can't do *"In the 21st Century, Digital Literacy is almost as important as literacy and numeracy… Computers are a tool to enable digital creativity. And computer science is not just about coding. It's a discipline; a broad mix of computational thinking, problem-solving, decision making, intuitive learning, logic, analysis and creative thinking." ('Hacking The Curriculum' – Ian Livingstone and Shahneila Saeed)* *The KS3 Computing Curriculum is designed to give students the opportunity to develop what they have learnt in KS2, although their experience at KS2 varies widely and so learning is designed to give them opportunities to close the gap in knowledge and understanding by gradually building on each of the disciplines within the subject.* *Students are given experience and practical applications of the different disciplines in computing, including digital literacy, multimedia, computational thinking, and programming. These strands run throughout the curriculum and are revisited and developed until students chose to specialise for GCSE. Digital Literacy skills are used across all aspects of the school curriculum, into further education and the workplace.* *The design of the curriculum is influenced and supported by experience and expertise of staff, the work of national computing groups such as CAS and NCCE and current Pedagogy relating to curriculum design and computing. We are constantly reviewing and updating our curriculum to keep it up to date with developments in the field.*

Appropriate – displays a careful selection of knowledge and skills that are cumulatively assessed
Knowledge and skills are developed throughout the curriculum journey, and we use a range of strategies to assess progress.

Students keep records of their progress in units in their exercise books or folders and a cumulative grade is reported at each PR point. We use a range of assessment methods, alongside more informal, ongoing in lesson feedback and guidance.

The curriculum is designed to be accessible for all, at KS3 we use a variety of strategies to meet the needs of all learners and the design of our projects allow students to stretch and challenge themselves through their outputs. For example, they can continue to develop a program to include more advanced techniques such as selection and iteration, where others might be challenged enough to create some simple sequenced outputs.

Broad and balanced – includes a range of academic subjects and builds 'Cultural Capital'
"The World Economic Forum concluded that the three most important skills in for jobs in the 2020 world of new technologies and new ways of working will be Creativity, Problem-Solving and Critical Thinking[1]", all of which form part of our computing curriculum as we hope to develop learners ready for their futures. (1. Hacking The Curriculum' – Ian Livingstone and Shahneila Saeed)

Computing is a broad subject and we have planned carefully to allow time for students to develop skills in all the disciplines of the subject, with an emphasis throughout on where the skills we learn relate to our wider learning both in and outside of school.

Rigorous – Challenges and supports all students to be able to know more and remember more
Our assessment methods give students opportunities to both secure their current learning, but also regular recall activities encourage them to develop and remember their learning throughout the course. Revision exercises, including the use of online platforms such as Isaac Computing and Seneca, are also used to help students continue to revisit topics outside the classroom.

Integrated - to be progressive – there is clear vertical progression in each subject from year to year
The Curriculum Journey in KS3 is designed to equip students with the knowledge and skills they need to make informed choices to go on to choose Computer Science or Creative iMedia at GCSE alongside developing the computing, ICT and digital literacy skills that will support them across all subjects and in their future careers.

Coherent – there is clear intent about what our students will learn at each stage

Teachers and students know what they are learning and why, they are able to articulate their learning journeys and understand how their learning progresses though the year/key stage/college life.

How we assess learning	**Key Vocabulary**
We use a range of assessment methods, alongside more informal, ongoing in lesson feedback and guidance: - *KS3 Quick Fire Five* - *KS4 6 a Day Exam Questions and vocabulary* - *KS5 3 a Day exam Questions and vocabulary* - *KS3 End of Unit Tests, including feed forward and back questions and student voice opportunities* - *KS4 and 5 End of Topic Tests* - *KS4 and 5 Exam Question Practise and Mock Exams*	*Explain what tiered vocabulary is in your subject and where it is found (vocabulary book, textbook, lesson starters)* *Technical vocabulary is referred to regularly in lessons, at KS4 and 5 students complete a 'Key Vocabulary' workbook throughout the course, developing their own set of definitions to help with revision. There are lessons focussing on exam specific vocabulary (for example discuss/evaluate/explain) and we reflect on these following end of unit tests.* *Vocabulary forms part of classroom displays.*
Enrichment	**Careers Education prepares our students to make informed choices about their futures**
We regularly discuss career opportunities in lessons. Skills that are developed in ICT and Computing are key to many aspects of the 'real world'. Students are given opportunities to explore job roles within aspects of the curriculum. *Bletchley Park trip - joint trip with History department, linking to code breaking and encryption within in the computing curriculum.* *Centre for Computing History in Cambridge.* *Heritage Day activities.* *Rise Up academy* *Lunchtime programming sessions*	*Provide an overview of how you teach students about careers, this maybe linked to topics, external visitors, trips, university talks or visits, further and higher education experience or discussions.* *See Enrichment section.* *Careers are regularly discussed within the curriculum and opportunities to include outside agencies in this have been really beneficial to our students, for example, our Y12's have had talks and are going on a visit to BT's innovation centre, they will look at new opportunities within the sector and meet graduates and apprentices to share their experiences.* *Students are supported throughout their learning to make informed choices at GCSE and A Level.*

Our curriculum is underpinned by our values and are expressed through our curriculum	
Explain for each point, how you teach, nurture or refer to the values **Pride** – The department has high expectations of all students and aims to meet students at their own level of challenge. Students are encouraged to take pride in all aspects of their work and this is modelled through the teaching spaces and by teaching staff. **Passion** – Subject specialists in the department share their passion for the subject through their teaching, we encourage reading around the curriculum through our hinterland discussions, recommended texts/websites/books etc. **Positivity** – Students are encouraged to be positive about their learning, when feedback is given, they are encouraged to think about how they can use this in a positive way to improve their knowledge and understanding – getting a question wrong or getting an unexpected output in their programming is not a failure, but rather an opportunity to learn something new and improve.	