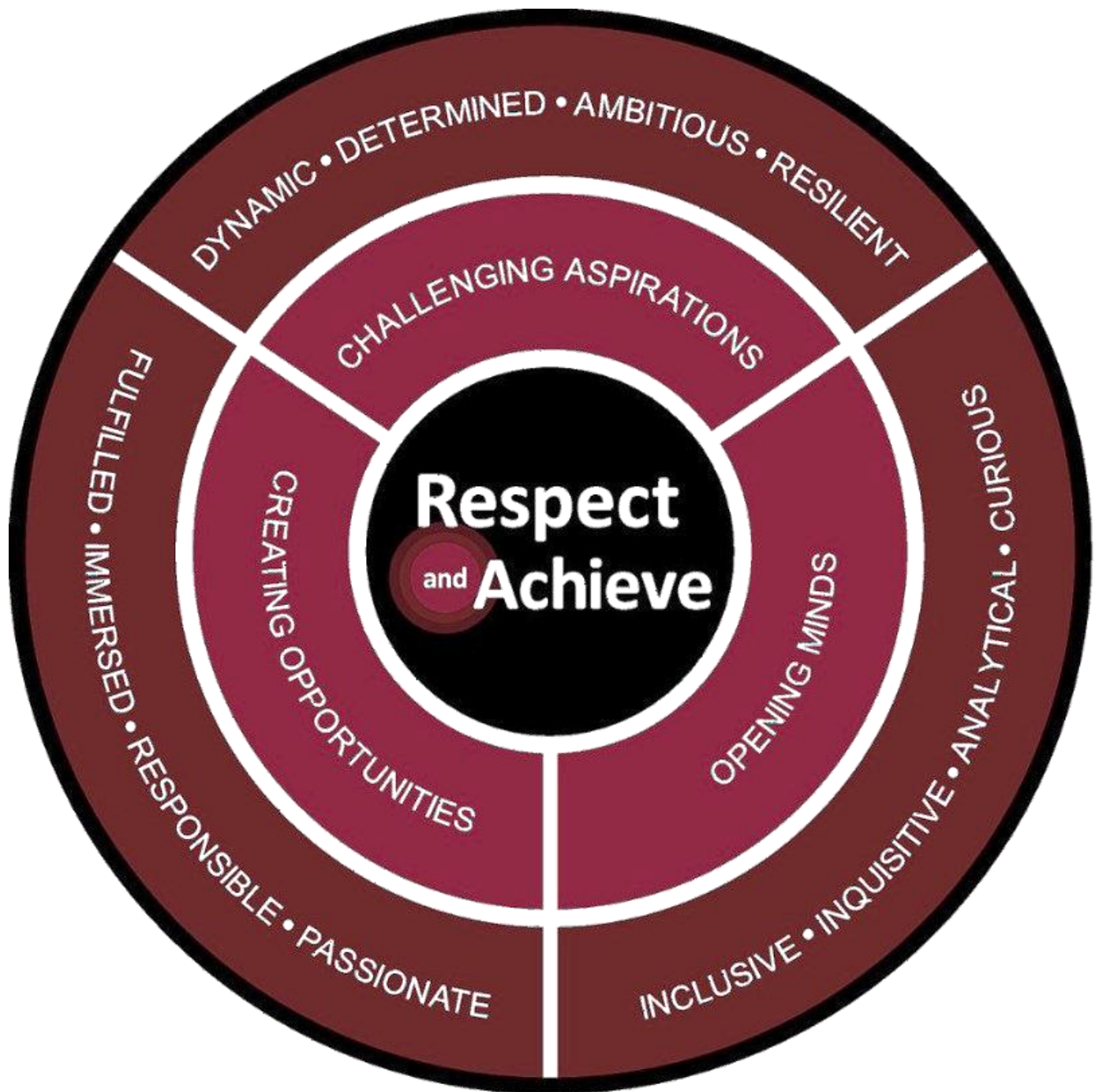






Glebelands
Respect and Achieve



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academy trust



Head of Department Welcome

Greetings and welcome to Glebelands School, where curiosity meets innovation! We're thrilled that you've chosen to explore our Computer Science department through this informational booklet.

Our Computer Science department is a dynamic hub of learning, and we're proud of the exceptional education we offer to our students. Currently, our team comprises two dedicated members who are committed to nothing less than excellence. Together, we've crafted an engaging and enriching curriculum that sparks a passion for learning.

At the core of our department's mission is the unwavering belief that every student can thrive in the world of Computer Science. Our curriculum is designed to be exciting, relevant, and empowering, helping students develop both technical skills and a deeper understanding of the digital world around them. Students explore a wide range of topics that not only build their computing knowledge, but also encourage them to understand the influence of technology in everyday life, from algorithms and artificial intelligence to digital responsibility, communication, and the wider impact of computing on society and the environment.

As a member of our department, whether you're a seasoned educator or just starting your teaching journey, your voice matters. We encourage all team members to contribute ideas and insights, fostering an environment of continuous growth and innovation.

Beyond our exceptional team, we're fortunate to boast top-notch facilities that provide the perfect backdrop for exploration and experimentation. Our commitment to holistic education extends to a range of extracurricular opportunities, from our thriving Thrive initiative to after-school clubs. In the past, we've run exciting clubs like the MicroBit club, and this year, we're thrilled to introduce our elite programming club. We're always open to fresh ideas and eagerly welcome your suggestions.

This isn't just an introduction; it's an invitation to be part of a team that's shaping the future of education. The successful candidate, whether a new addition or a veteran, will share in our school's and department's strategic vision. Together, we'll create a learning environment where every student not only succeeds but flourishes in the thrilling world of Computer Science.

"Everyone should learn how to program a computer because it teaches you how to think."

Steve Jobs

Mr P Harwood

Head of Department



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Computer Science Department Vision Statement

At Glebelands, the world of computing comes alive through a dynamic blend of innovation, creativity, and knowledge. Students embark on an exciting journey through Computer Science, Information Technology, and Digital Media, developing both practical skills and theoretical understanding that prepare them for an ever-changing digital world.

Within our department, students do far more than learn how to use software or write code. They develop the confidence to think critically, solve problems, and use technology creatively. Through programming, digital design, and real-world projects, students learn to turn ideas into solutions while gaining a deeper appreciation of the concepts that underpin modern computing.

However, our vision extends beyond technical proficiency. We believe that Computing should provide students with a rounded understanding of the role technology plays in their lives and society. Our curriculum helps students recognise that computers are not simply devices used for gaming or coding, but powerful tools and systems that shape the world around them. Students explore how algorithms influence the content they see online, how emerging technologies such as Artificial Intelligence are changing the way people live and work, and how computing impacts important global issues including sustainability and the environment.

At Glebelands, we equip students with the knowledge and cultural capital needed to thrive in modern society. We are committed to ensuring that every learner, including disadvantaged students and those with special educational needs, can access and benefit from a high-quality computing education. From mastering productivity tools such as Microsoft Office, to developing creative digital media skills, to learning programming languages including Python and HTML, students gain practical skills that enrich both their education and their everyday lives.

We also place great emphasis on developing communication, collaboration, and digital responsibility. Through presentations, group projects, discussions, and reflective learning, students build confidence in expressing ideas, providing constructive feedback, and working effectively with others. These experiences help prepare them not only for future education and careers but also for active participation in a digital society.

Our mission is for every student to leave Glebelands as a confident, capable, and informed digital citizen. They will understand how technology influences the world around them, have the skills to use it effectively and responsibly, and possess the curiosity to adapt to future technological change. Whether pursuing careers in computing or applying digital skills in other fields, our students will leave with the knowledge, resilience, creativity, and problem-solving abilities needed to succeed in an increasingly connected and technology-driven world.

"The best way to predict the future is to invent it."

Alan Kay



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About the Computer Science Department

Department Staff

- MR P Harwood

Facilities

- 3 fully equipped IT suites

Each teaching room is setup with a desktop computer, sound system, projector and visualiser to support the delivery of lessons. We also have the software "Vision" to enable screen control of students computers.

We have a selection of IT technician that is on call for any issues.

Key Stage 3:

Year 7, 8 and 9 have 2 x 50 minute lesson every fortnight

Key Stage 4:

In Year 10 and 11, our curriculum dedicates 6 x 50 minute lessons per fortnight to study Computer Science, an increasingly favoured choice among our discerning students.



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Computer Science Key Stage 3 Curriculum

In Key Stage 3 students are offered a broad and exciting curriculum where each year student completes a variety of projects. Each term is based around either a theory element, practical element or a coding element. Scatter through out are embedded British value and the Glebelands value of respect and achieve.

Year 7 Curriculum Overview:

Year 7 establishes the foundations of Computing at Glebelands. Through **Digital Literacy**, students learn to use a range of software and digital tools confidently and responsibly. In **Networks and Encryption**, they explore how computers communicate and how data is protected online. Through **Scratch programming**, students are introduced to computational thinking and coding concepts, developing creativity, logical reasoning, and problem-solving skills in an engaging and accessible way.

Year 8 Curriculum Overview:

Year 8 builds on the foundations established in Year 7 by combining creative, theoretical, and programming experiences. Through **Photoshop**, students develop digital media and design skills. In **Computing Systems**, they investigate the hardware and software that power modern technology. Through **HTML and CSS**, students create and style their own websites, gaining an understanding of how the internet works while further developing their technical and creative abilities.

Year 9 Curriculum Overview:

Year 9 prepares students for further study in Computer Science by deepening their understanding of technology and its impact on society. Through **iDEA Awards and digital projects**, students strengthen practical digital skills. In **Ethics, Artificial Intelligence and Online Safety**, they explore contemporary issues in Computing and the wider digital world. Through **Python programming**, students develop more advanced coding, computational thinking, and problem-solving skills, providing a strong foundation for GCSE study.

Curriculum Map

Year 7

Key Concepts

- Digital literacy and digital citizenship
- Computer networks and internet safety
- Cybersecurity and encryption
- Computational thinking
- Algorithms and programming fundamentals
- Responsible use of technology

Skills Developed

- Using Microsoft Word, PowerPoint and Excel effectively
- Managing files and digital resources
- Staying safe online and recognising cyber threats
- Problem solving and logical thinking
- Creating algorithms and simple programs in Scratch
- Presenting information using digital tools

Year 8

Key Concepts

- Digital media and visual communication
- Computer systems and hardware
- Software and operating systems
- Website design and development
- HTML and CSS
- The impact of digital technologies on communication

Skills Developed

- Image editing and graphic design using Photoshop
- Understanding computer components and their functions
- Analysing how computer systems operate
- Creating and styling websites using HTML and CSS
- Debugging and refining digital products
- Applying creativity to solve real-world problems

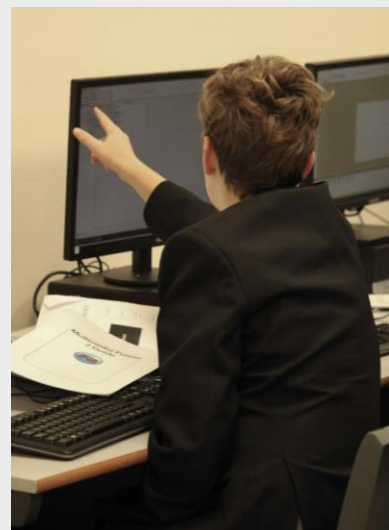
Year 9

Key Concepts

- Artificial Intelligence and emerging technologies
- Ethics in computing
- Online safety and digital footprints
- Data and information
- Computational thinking
- Python programming and automation

Skills Developed

- Developing employability and digital literacy through iDEA Awards
- Evaluating the social and ethical impact of technology
- Thinking critically about AI and algorithms
- Designing, testing and refining Python programs
- Applying logical and computational thinking to complex problems
- Working independently and collaboratively on digital projects



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Computer Science Key Stage 4 Curriculum

Key Stage 4 is where Computer Science truly comes into its own, inspiring students to deepen their understanding of the digital world and the technologies that shape modern life. As computing continues to play an increasingly important role in society, this subject remains one of the most popular and engaging choices for our students. At this stage, we proudly offer the OCR GCSE Computer Science course, a well-structured and challenging programme that develops both technical expertise and critical thinking.

Unit 01 – Computer Systems:

In this unit, students develop a comprehensive understanding of the systems that power the modern digital world. They explore the role and function of the Central Processing Unit (CPU), learning how instructions are processed and executed within a computer system. Students also investigate different forms of memory and storage, examining how data is stored, accessed, and managed. The unit further introduces wired and wireless networks, allowing students to explore network structures, hardware, and communication methods that enable devices across the globe to remain connected and share information effectively.

Unit 02 – Computational Thinking, Algorithms and Programming:

In this unit, students develop the problem-solving skills that lie at the heart of Computer Science. They learn how to analyse complex problems, break them down into manageable components, and design efficient solutions using computational thinking. Students explore the principles of algorithms, discovering how instructions can be created, tested, and refined to solve real-world challenges. Through programming, primarily using Python, they gain practical experience of implementing solutions, developing logical thinking and the confidence to create, debug, and evaluate programs effectively.



Curriculum Map

Year 10

Key Concepts

- Computer Systems and Architecture
- CPU Performance and Embedded Systems
- Memory and Storage
- Wired and Wireless Networks
- Network Security Systems
- Software and Operating Systems
- Systems Ethical, Legal, Cultural and Environmental Impacts of Technology
- Computational Thinking
- Algorithms and Problem Solving
- Programming Fundamentals in Python

Skills Developed

- Analysing and evaluating computer systems
- Designing algorithms using flowcharts and pseudocode
- Programming solutions in Python
- Testing and debugging code
- Breaking complex problems into manageable components
- Evaluating the impact of technology on individuals and society
- Developing logical and computational thinking skills
- Exam practices

Year 11

Key Concepts

- Data Representation
- Number Systems and Binary
- Character, Image and Sound Representation
- Boolean Logic
- Programming Techniques
- Searching and Sorting Algorithms
- Computational Thinking
- Robust Program Design
- Ethical and Emerging Technologies
- Revision

Skills Developed

- Writing efficient and well-structured Python programs
- Applying advanced programming techniques
- Using Boolean logic to solve problems
- Converting and manipulating binary data
- Analysing and comparing algorithms
- Interpreting examination-style scenarios
- Applying knowledge across multiple areas of the specification
- Critical thinking and problem solving in unfamiliar contexts
- Preparing for GCSE examinations

Key Stage 4 2026 Results:
Computer Science 71% (9-5)
SVA +0.05

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What our students said when asked to finish the sentence ***'I like Computer Science because...'***

"I like making games on the computer and how to code which is a great skill."

"My teacher really does care and he knows how much I struggle and yet motivates me to keep going when I want to give up."

"We can be creative and have a lot of freedom to think for ourselves."

"It is fun and also challenging. It gives us the opportunity to learn new skills and try something new."

"It's an enriching and engaging subject."

"It's really fun and there is so so much stuff to learn that you won't already have learnt. There is loads to do as well."

"The teacher is really nice and helps people when they get stuck."

"You get to learn about the different parts of the computer, their functions and what they're used for."

"I think it is a fun way to learn how to use of different effects on the computer."

"The lessons are always fun."

"It is exciting and gets my brain going."



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