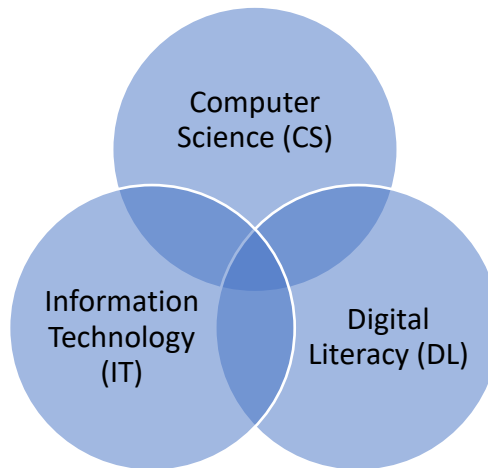


# Computing Department

Computers are now part of everyday life and, for most of us, technology is essential to our lives, at home and at work. 'Computational thinking' is a skill that all students must learn if they are to be ready for the workplace and able to participate effectively in the digital world.

## The three main strands within Computing



*Computer science is the scientific and practical study of computation: what can be computed, how to compute it, and how computation may be applied to the solution of problems.*

*Information technology is concerned with how computers and telecommunications equipment work, and how they may be applied to the storage, retrieval, transmission, and manipulation of data.*

*Digital literacy is the ability to navigate, evaluate and create digital artefacts using a range of digital technologies effectively, responsibly, safely, and critically. The creation of digital artefacts will be integral to much of the learning of computing. Digital artefacts can take many forms, including digital images, computer programs, spreadsheets, 3D animations.*

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## Key Stage 3

The core of computing is **computer science**, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use **information technology** to create programs, systems, and a range of content. 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.

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*Students will learn how computers and computer systems work, they will design and build programs, they will develop their ideas using technology, and create a range of digital content.*

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To view our KS3 Computing curriculum progression map, [click here](#).

*Our aim is to encourage high expectations and high standards of achievement, both academic and personal. Our values embrace honesty, trust, reliability, respect for the legitimate rights of others, care for the weaker members of society, regard for the environment and a kindness towards other people. #createyourfuture*

THE AIMS OF COMPUTING AT KS3:

- [All pupils] can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation (CS)
  - [All pupils] can analyse problems in computational terms, and have repeated practical experience of writing computer programs to solve such problems (CS)
  - [All pupils] can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems (IT)
  - [All pupils] are responsible, competent, confident, and creative users of information and communication technology. (DL)
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### Key Stage 4

All students are given the opportunity to study aspects of information technology and computer science to allow them to progress to higher levels of study or to a professional career.

*All pupils are taught to:*

- develop their capability, creativity and knowledge in computer science, digital media, and information technology
- develop and apply their analytic, problem-solving, design, and computational thinking skills
- understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.

*To view our KS4 Computing curriculum progression map, [click here](#).*

*To review our option choices at KS4, [click here](#). It details both KS4 courses on offer to our students, units/topics to be covered, skills that will be used and taught as well as how the courses are assessed.*

REFERENCE: CAS\_SECONDARY.PDF (COMPUTINGATSCHOOL.ORG.UK)