

Computing for all at key stage 4

Computing for all at KS4

In compliance with national curriculum requirements those students who do not choose to study computer science or IT at GCSE level are given the opportunity to study aspects of information technology and computer science in sufficient depth to allow them to progress to higher levels of study or to a professional career.

At Norbury High School for Girls, using computers is factored into the curriculum delivery of many subjects. We have six dedicated IT classrooms where computers are available across the school. Further to this, we have large study spaces in the sixth form block and in the library, where PCs are located. Computers in the library are accessible to all and support home learning, revision and lessons. The sixth form computer area is dedicated to sixth form learners – helping them complete coursework, NEA work, revise or prepare for lessons.

The national curriculum states that students at KS4 should be 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 report a range of concerns

This is achieved through a diverse range of uses and activities which make purposeful and relevant use of technologies, within other subject lessons.

Art & Design - Fine Art

Year Groups: Y10 & 11

- Use PowerPoint and Word to create moodboards and artist research
- Use Photopea and other websites/apps to edit photos and develop ideas
- Scaling up images, analysing artist/designer work, making connections
- Overcoming design problems, realising 2D to 3D designs, testing materials

Art & Design - Graphic Communication

Year Groups: Y10 & 11

- Use Photoshop to develop logo and poster designs
- Scan and edit hand-drawn designs, add text and colour
- Create collage-based posters, explore composition in Photoshop
- Understand layers, document types, scale and resolution
- Use laser cutter with digital edits
- Understand tessellation, size, scale and resolution

Art & Design - Textiles

Year Groups: KS3 & KS4

- Use Photoshop to manipulate images as a CAD tool
- Prepare images for laser cutting

Business

Year Groups: Y10 & 11

- Explore digital media in marketing mix (e.g. design campaigns)
- Study tech impact (AI, robotics, digital payments)
- Evaluate real case studies on consumer/business impact
- Interpret financial documents (e.g. cash flow, break-even)
- Solve business problems, evaluate stakeholder impact
- Design marketing mixes for target audiences
- Calculate break-even, profit margins; use formulas and graphs

Citizenship

Year Groups: All Years

- Create pressure groups using social media

Computing & ICT

Year Groups: All Years

- Develop and apply analytical, problem-solving and computational thinking skills, via the use of computers
- Follow a coherent scheme of work incorporating all of the National Curriculum framework

Drama

Year Groups: Y10 & 11

- Create advertising posters and soundscapes
- Include digital pictures/moving images in performances
- Use Excel for budgeting and cost tracking
- Design tools for set, costume and lighting plans
- Use digital stimuli (e.g. images) to inspire performance themes (e.g. technology and safety)

English

Year Groups: Y10 & 11

- Use Century for homework
- Use websites for wider reading and research

- Access Google Classroom and Massolit

Food Technology

Year Groups: Y10 & 11

- Research working characteristics, chemical properties of ingredients
- Create electronic portfolios with photographic evidence
- Use safe websites and share documents via Google Classroom

French & Spanish

Year Groups: Y10 & 11

- Recognise grammar patterns and cognates
- Practice abstraction through comprehension tasks
- Study online/app use in GCSE content
- Use Language Gym for homework and revision
- Research French/Spanish-speaking countries
- Create knowledge organisers and mind maps
- Discuss digital identity and safety in French/Spanish units

Maths

Year Groups: All Years

- Use Sparx, Mathswatch, Doctor Frost for homework and revision
- Explore geometry using Geogebra and Desmos
- Use Google Slides/Docs for projects (e.g. statistics)

- From 2024, use Kerboodle for assessments

Geography

Year Groups: Y10 & 11

- Use Seneca and Google Classroom for revision
- Create location and heat maps using analytical tools

History

Year Groups: All Years

- Use websites and Google Classroom for research
- Use Massolit and Seneca
- Holocaust assessment via computer
- Explore technology in topics (e.g. fossil fuels, identity)

Health and Social Care

Year Groups: All Years

- Use online platforms and media for coursework and research

Media

Year Groups: Y10 and Y11

- Analyse credibility of online media
- Learn how to use Photoshop

Music

Year Groups: Y10 & Y11

- Create and edit music using Garageband/Logic
- Use PowerPoint/Word for composition logs with screenshots

PE

Year Groups: Y10

- Complete 14-hour coursework for performance analysis
- Use Word, Excel, Google Docs, PowerPoint, video recordings

PSHE

Year Groups: Y10 & Y11

- Discuss impact of societal change and social media
- Explore laws on digital use, fake news, revenge porn, sexting

Psychology

Year Groups: All Years

- Use media-based research and discussions about technology impacts

Religious Studies

Year Groups: All Years

- Use online/media for homework and independent tasks
- Discuss censorship, digital extremism, and media responsibility

Science

Year Groups: All Years

- Biology: Simulations, multimedia presentations, data analysis
- Chemistry: Virtual labs, data loggers, chemical analysis tools
- Physics: Sensors, simulations, spreadsheets, experimental planning
- Discuss safe internet use and credibility of sources

Sociology

Year Groups: Y10 & Y11

- Use of technology to explore societal issues and case studies