



Computing and ICT

It is the aim of the Computing Department at Newent Community School and Sixth Form Centre to ensure that all students leave our school equipped with the life-long learning skills and qualifications necessary to live, thrive and compete in this technological age. Computational thinking and programming skills lie at the heart of our approach at all key stages.

Computing concepts are first introduced at Key Stage 3. In Key Stage 4, students can opt for either an ICT or Computing GCSE. At Key Stage 5, students can follow routes in Computer Science or apply and develop their ICT skills through courses such as Game Design, Digital Graphics and Website Production.

Throughout their time at Newent Community School and Sixth Form Centre, your child can also participate in extra-curricular clubs that are run by the Computing Department. These include the Cyber Squad, Code Club and Hacking Club.

Workshops are also run to allow students extra time to explore their individual interests in areas such as Software Design, Networks and IT Technical Support. There are two full-time members of staff in the Department along with five ICT Hub technicians forming a team that are able to educate and enthuse students about all aspects of Computing, ICT and Systems Troubleshooting and Repair.

Key Stage 3:

- Computing is a core subject at Key Stage 3 and students follow different topics based on fun, real-life scenarios that develop a wide range of Computing and ICT skills and capability and encourage students to become enthused and excited with this subject. These include Game Design, Mobile APP development, Textual Programming & core ICT skills
- Students also learn about staying safe on line plus responsible technology use and practice
- Our KS3 pupils have one discrete Computing lesson each week, with schemes of learning following the National Curriculum Computing Specification.
- Student work is evidenced using our e-portfolio application, with students creating their individual portfolios over the course of each year
- Detailed teacher feedback is given each term, highlighting a student's current skills and capabilities and clearly showing the next steps needed to improve and develop
- We challenge our students so that they achieve to the very best of their ability – giving both short and long term highly aspirational targets

Key Stage 4:

At Key Stage 4 we offer two rigorous and relevant options – OCR GCSE Computing and Edexcel GCSE ICT

GCSE Computing will appeal to those students who are interested in the more 'technical' side of computers and ICT. So if your child enjoys any of the following then GCSE Computing would be the ideal subject for them:

- Learning about all types of electronic equipment and control programs (including mobile phones, laptops, home automation and industrial systems etc.)



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- Problem solving, analysis & critical thinking
 - Investigating current trends in computing
 - Mathematics or Science
 - Coding solutions

This is a very exciting course suitable for those students who want to learn more about what goes on 'behind the scenes' of today's technology – and learn how to use it, to create the technology of tomorrow! Lessons will be 'hands on' with independent projects and learning tasks. There are 3 units to cover over the two year course:

Unit 1: Computer Systems & Programming

- Computer Systems
- Hardware & Software
- Data Representation
- Computer Networks
- Database Management Information Systems
- Programming

Units 2 & 3: Practical Investigation & Programming Project

- Working independently you will need to demonstrate your ability to code a solution to a given problem. The tasks will be set in engaging and relevant contexts, e.g. gaming, web, mobile phone applications.

So if your child is considering future careers in Computing or Engineering fields, including Games Programmers, Hardware Engineers, Aerospace Engineers or PC Technicians, then this course for them.

GCSE ICT should appeal to those students who are interested in using computers and application software to acquire and apply high level creative & technical skills, knowledge and understanding of ICT. It allows students to:

- Become an independent and discerning user of ICT, able to make informed decisions about its use and application
- Develop ICT-based solutions to solve problems
- Develop their understanding of current and emerging technologies and the social and commercial impact of these
- Develop their understanding of the legal, social, economic, ethical and environmental issues raised by ICT



This is a very exciting, interactive course for students who want to learn more about living in the Information Age and the 'cutting edge' digital tools and technologies that are currently available – and being developed! There are 2 units to cover over the two year course:

Unit 1: Living in a Digital World

- Personal digital devices
- Connectivity and networking
- Operating online, looking at goods & services
- Online communities
- Issues related to living in the Digital World

Unit 2: Digital Tools and Technologies

- Research and information gathering using the Internet and databases
- Modelling using spreadsheet software
- Digital publishing through web design and interactive applications
- Evaluating outcomes

So if your child wants to develop advanced technical and user skills needed for living in the Information Age, then this is the course for them!

Key Stage 5:

At Key Stage 5 we offer a variety of options ranging from an A Level course in Computer Science to courses in Game Design, Networked Systems Security or 3D Modelling

Our Computer Science qualification will above all else be relevant to the modern and changing world of computing. The course focuses on programming with the emphasis on the importance of computational thinking as a discipline

- It puts computational thinking at its core, helping students to develop the skills to solve problems, design systems and understand human and machine intelligence.
- It also applies all the academic principles learned in the classroom to real world systems in an exciting and engaging manner
- This course gives students a clear progression into higher education, as the course was designed after consultation with members of BCS, CAS and top universities

Other courses available allow students to develop their ICT skills to become an expert user.

Should you like to receive any additional information on this subject please contact Mr S Karunaratne, Head of Department via email admin@newent.gloucs.sch.uk.