# COMPUTING & DIGITAL MEDIA: FUTURE READY

**At MRC we want to best prepare our students for the technologies that will shape their future world.**

- We do not want our students to be passengers in this world, but to be at the forefront of these advancements by becoming pioneers in their own right.

**We will achieve this through our challenging KS3, KS4 and KS5 schemes of work.**

- We focus on building programming skills and using them creatively.
- We look at the basics of how computers work
- We learn how to use computers in a creative way, for example 3D modelling in Year 9

**At KS4, we offer EdExcel GCSE Computer Science**

- The programming element of the course is assessed with a set of on-screen programming tasks.

**KS5 we offer OCR Computer Science A-Level**

- This course prepares students for further education in Computer Science, and students gain experience of owning their own programming project at the start of Year 13. This prepares them for the next steps to University or Degree Apprenticeship courses.

# COMPUTING & DIGITAL MEDIA : AIMS & OUTCOMES

## CURRICULUM AIMS

- Develop skills in programming using industry standard language, such as Python.

- Develop knowledge in Computer Science theory such as systems architecture, networks and data representation.

- Give students a comprehensive foundation of knowledge for the next key stage.

- Encourage students to explore wide variety of careers in Computing and Technology.

- Make students curious and question future technologies and evaluate their impact on society and the environment.

- Develop several core ICT skills.

## OVERALL OUTCOMES (at KS5)

- Students do not just cope but thrive in the computing dominant future that faces them.

- Students use computational thinking and logical thinking to overcome complex problems.

- Students can use industry standard applications to create programs or digital media.

- Students are confident and ready to continue studies at university or begin work in computing careers.

| Year | Computer Science | | Information Technology | Digital Literacy |
|------|------------------|--|------------------------|------------------|
| | Computational Thinking | Principles of CS | | |
| 7 | Block Programming Physical Computing | Hardware and Binary | Spreadsheets | Digital Media to Communicate |
| 8 | Python Programming (Text Console) | Networks | Experience AI | Image Manipulation |
| 9 | Games Programming (Python) | | Social Media | 3D Animation |
| 10 | Python Programming (GCSE) Algorithms as Flowcharts | Hardware and Software, Data Representation (GCSE), Boolean Logic | Digital Media (iMedia) | Ethics (GCSE) Applications of digital media (iMedia) |
| 11 | Python Programming (GCSE, Files, Lists String Formatting) Search/Sort Algorithms | Communications, (GCSE) | Producing a media project (Comics, R095 iMedia) | Ethics (GCSE) |
| 12 | C# Programming OOP Algorithms | Hardware, Data Structures, Boolean Algebra, Software | | Ethics (A Level) |
| 13 | Programming Project | Communications, Web Technologies | | |