

# COMPUTER SCIENCE

COURSE GUIDE 2020

carmel  
college

Everybody in this country  
should learn how to

# PROGRAM

BECAUSE IT  
TEACHES  
YOU HOW TO  
THINK.

STEVE JOBS

# Computer Science

## Linear A Level

Exam Board: OCR

Full course specification:

[www.ocr.org.uk](http://www.ocr.org.uk)

DEVELOPER  
CYBER  
GAMES PROGRAMMER  
SYSTEMS ANALYST  
SECURITY ENGINEER  
NETWORKS  
DATABASE DESIGNER  
HARDWARE

### Why choose Computer Science at Carmel?

A Level Computer Science is a traditional course for those interested in following a career in Computer Programming, Systems Analysis, Network Engineering or any other Computer Science related career path. During the course you will gain an in-depth understanding of how the computer works and what it can do. It is suited to those who want to extend perhaps their personal interest in computers, or to develop skills such as programming. Computer Science is an intensely creative subject that combines invention and excitement, and can look at the natural world through a digital prism.

The Computer Science Department promises to provide you with a high standard of teaching and extra support to ensure you are successful. We want you to enjoy your studies and be part of our excellent achievements.

### What will I study?

The A Level specification introduces students to the internal workings of the Central Processing Unit (CPU), how data is exchanged, how to develop software and the legal and ethical issues associated with the use of computer systems. Students will be encouraged to use computational thinking and utilise algorithms to solve problems. The specification will provide insight into, and experience of how computer science works, stimulating your curiosity.

### What are the entry requirements for this course?

You will need: **GCSE grade 6 in Mathematics, grade 4 in English Language and a grade 5 in Computer Science (if studied).**

### How will I be assessed?

You will be assessed through two exams and a piece of coursework. The exams will be sat at the end of the two year course.

- **Unit 1 Computer Systems (exam)** – 40% of total A Level
- **Unit 2 Algorithms and Programming (exam)** – 40% of total A Level
- **Unit 3 Programming Project (coursework)** – 20% of total A Level

### Can I study Computer Science if I have not taken it at GCSE?

Yes, we will deliver all the skills and knowledge required for this course.

### How successful are Carmel's students?

Summer 2019 Exam Results: A Level Computer Science Pass Rate, 62% A\*-C



During my time at Carmel, I have made a lot of new friends who share similar interests.

I am glad I chose to study Computer Science as I have been able to learn both the practical and theory side of computer systems and how they work efficiently. I have also been taught a range of different coding techniques in an array of programming languages such as Visual Basic.

The reason I like studying Computer Science, and would recommend it to others, is because it allows you to develop your problem solving skills such as tackling a programming challenge by breaking down the problem and solving it bit by bit. Similarly, my research skills have improved; so whenever I am confused by a topic or programming type, there is a variety of research material I can use such as books, videos or the internet.

**Angel Hill**  
Broughton Hall  
Studying: Computer Science, BTEC IT, 3D Design



## Student Voice

“The parts of the course that I like the most are learning how to write sections of code and the mathematical type aspects of the course such as the use of binary arithmetic.”

“The environment in the class is fantastic. I feel free to voice my opinion and get help from the teachers or my peers around me. Computer programming in my opinion is a team effort and I appreciate the environment I am in which enables me to do that.”

“The content of the course is extremely interesting, regular mini-tests and mock papers help improve exam technique and encourage revision for topics.”

**carmel**  
college

Prescot Road,  
St Helens  
Merseyside  
WA10 3AG

[www.carmel.ac.uk](http://www.carmel.ac.uk)

### MEET THE TUTOR

**Mark Gaskell**  
Head of Computer Science