



COMPUTER SCIENCE

Course: OCR (Oxford & Cambridge & RSA) A-Level Computer Science (H446)

INTRODUCTION

Step into the dynamic world of A-Level Computer Science! As you prepare to transition from Year 11 to Sixth Form, we have meticulously curated a comprehensive transition programme to guide you through the exciting challenges and discoveries that lie ahead in this course. It is a really good time to be studying Computing, with our social and working lives seemingly being ever more virtual, and the need for these skills in the future are increasing all the time. This period marks an opportune moment to delve into Computing, as our social and professional landscapes increasingly shift towards virtual realms.

A-Level Computer Science is designed with several key objectives in mind:

- **Advanced Computing Skills:** Acquire proficiency in a broad spectrum of computing topics, extending beyond mere programming. Explore areas such as networking and database design to broaden your skill set.
- **Advanced Programming Techniques:** Delve into advanced programming techniques, with a special focus on Object-Oriented Programming (OOP). This aspect introduces novel concepts that will enrich your programming knowledge.
- **Individual Coursework Project:** Engage in a coursework project of your own choosing, providing you with the opportunity to apply your newfound skills in a real-world context. This personalised project empowers you to explore areas of personal interest within the field.
- **Ethical Considerations:** Reflect on the ethical and moral dimensions of Computing, recognising its

profound impact on society and values. This critical aspect encourages thoughtful scrutiny of the ethical implications of technology.

- **Integration into the Computing Community:** Immerse yourself in the wider Computing community, fostering connections and gaining exposure to diverse perspectives. This exposure lays the groundwork for further study and exploration within the expansive field of Computing.

As you embark on this educational journey, we invite you to embrace the challenges and opportunities that A-Level Computer Science presents. The skills and knowledge you cultivate during this course will not only prepare you for the ever-evolving technological landscape but also contribute to your personal and intellectual growth.

COURSE OVERVIEW

Here, you'll find detailed insights into the course structure, the importance of A-Level Computer Science, and how it fits into the broader landscape of technology and education. Whether you're already passionate about coding or just dipping your toes into the tech world, exploring more will provide a solid foundation for your journey.



Specification at a Glance: [AS and A Level - Computer Science - H046, H446 - OCR](#)

Assessment & Past Exam Papers : [AS and A Level - Computer Science - H046, H446 - OCR](#)

<https://ocr.org.uk/Images/170844-specification-accredited-a-level-gce-computer-science-h446.pdf>

TASK 1, EXPLORE CODING LANGUAGES

Required

Dive into the fundamentals of **Python** using **Replit** an online coding IDE <https://replit.com/>

Familiarise yourself with basic syntax and coding structures.

TASK 2, ALGORITHMIC THINKING

Required

Sharpen your problem-solving skills with challenges on LeetCode.

[LeetCode - The World's Leading Online Programming Learning Platform](#)

Learn how algorithms underpin much of computer science.

TASK 3 KEY CONCEPTS REVIEW

Required

Brush up on data structures, algorithms, and computational thinking:

Platforms like **GeeksforGeeks** ([Python Tutorial | Learn Python Programming \(geeksforgeeks.org\)](#))

Platforms like **Khan Academy** ([Intro to computer science - Python | Computing | Khan Academy](#)) offer interactive lessons to reinforce your understanding.

USEFUL WEBSITES

GitHub for collaborative projects

[GitHub: Let's build from here · GitHub](#)

Stack Overflow for problem-solving and community support

[Getting started with... Python - Stack Overflow](#)

Explore algorithmic challenges to develop your problem-solving abilities.

OPTIONAL TASKS

Watch documentaries and listen to podcasts to gain a broader understanding of the societal impact of technology.

Read additional materials to delve deeper into specific areas that pique your interest.

QUERIES

If you have any further questions regarding the course, please contact the Head of Computer Science, Mr Ogwiji:

CS@sacredh.lbhf.sch.uk