SUBJECT: COMPUTER SCIENCE

HEAD OF SUBJECT:
MR O GOODWIN

SYLLABUS NUMBER:
OCR COMPUTER SCIENCE (J276)

SYNOPSIS OF CONTENT

Students will learn to:

- understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation
- analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs
- think creatively, innovatively, analytically, logically and critically
- understand the components that make up digital systems, and how they communicate with one another and with other systems
- understand the impacts of digital technology to the individual and to wider society
- apply mathematical skills relevant to Computer Science.

ASSESSMENT

Component 1 – Computer Systems
Component 1 focuses on Computer Systems; it is an examined unit and makes up 40% of the assessment total.

Component 2 – Computational Thinking
Algorithms and Programming Component 2 is a new written exam, focused on computational thinking and algorithms. Students will be tested on the elements of computational thinking and logic. They are principally assessed as to their ability to write, correct and improve algorithms.

Component 3 – Programming Project
(Non-exam assessment) This component is the non-exam assessment where candidates will be challenged by a range of exciting and engaging tasks to apply the knowledge and skills they have learned. Our Computer Science

EXTRA CURRICULAR OPPORTUNITIES

Computing club runs for all year groups on Wednesdays after school in C14. This club allows students of any age to practice and expand on their ability to code.

GCSE students can also attend sessions in C14 on Thursdays after school for theory or programming support.

SETTING ARRANGEMENTS

GCSE Computer Science will count as a Science option in the English Baccalaureate (EBacc).

Classes will be of mixed ability.

RESOURCES

Students will use a range of online resources including http://code.org/learn and http://writecodeonline.com/

COMPUTING ENTITLEMENT

Students develop their capability, creativity and knowledge in Computer Science. They will be able to apply their analytic, problem solving, design and computational skills.

SELF STUDY ADVICE

This is a challenging GCSE option and there is no substitute for practice when it comes to learning how to code. Students are encouraged to download Python at home and complete practice programming tasks that are either set by the school or available through websites such as www.codecademy.com.