Curriculum Overview

Subject: Computer Science

Year Group: 10

CHASE HIGH SCHOOL
AMBITION - RESILIENCE - KINDNESS

Students will begin by understanding and applying the principles of Computer Science including abstraction, decomposition, logic, and algorithms through practical experience of solving problems, including designing, writing, and debugging programs.

They will then focus on topics for GCSE paper 1. Here they will develop their knowledge of the components that make up digital systems and how they communicate with one another and with other systems. They will also understand the impacts of digital technology to the individual and to wider society.

TERM 1	**TERM 2**	**TERM 3**
KNOWLEDGE/SKILLS Programming concepts: • Sequencing • Selection • Iteration To create: • Efficient programs • Modular designs • Search for and manipulate data	KNOWLEDGE/SKILLS 1.8 Environmental, Ethical, Cultural and Legal 1.1 Systems Architecture 1.2 Memory 1.3 Storage	KNOWLEDGE/SKILLS 1.4 Wired & Wireless Networks 1.5 Network topologies, protocols and layers 1.6 System Security 1.7 System Software
KEY ASSESSMENTS Half term 1: Intro to programming assessment Half term 2: Iteration and Lists assessment	KEY ASSESSMENTS Half term 1: 1.8, 1.1, unit assessment Half term 2: 1.2, 1.3, unit assessment	KEY ASSESSMENTS Half term 1: 1.4, 1.5, unit assessment Half term 2: 1.6, 1.7, unit assessment

Extended reading suggestions and external resources:

OCR J277 Specification - OCR GCSE Computer Science J276 Specification
BBC Bitesize KS4 - GCSE Computer Science - OCR - BBC Bitesize
Craig n Dave Videos - Craig'n'Dave - YouTube
Isaac Computer Science - Isaac Computer Science

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Students are introduced to the topics for GCSE paper 2. Here, they will apply mathematical skills relevant to Computer Science, enhancing their ability to think logically to solve problems. During the year, students will look at how computers represent data, use algorithms to search and sort data, and understand how to create robust programs.

TERM 1	**TERM 2**	**TERM 3**
KNOWLEDGE/SKILLS 2.1 Algorithms 2.2 Programming techniques 2.3 Producing robust programs	KNOWLEDGE/SKILLS 2.4 Computational logic 2.5 Translators and facilities of languages 2.6 Data representation	KNOWLEDGE/SKILLS Consolidation of learning in preparation for final exams
KEY ASSESSMENTS Half term 1: 2.1, 2.2, unit assessment Half term 2: 2.3, unit assessment	KEY ASSESSMENTS Half term 1: 2.4, 2.5, unit assessment Half term 2: 2.6, unit assessment	KEY ASSESSMENTS Half term 1: Summative assessment Half term 2:

Extended reading suggestions and external resources:

Age specific learning materials from the BBC https://www.bbc.co.uk/bitesize/subjects/z34k7ty

A YouTube playlist covering the programming concepts for GCSE Computer Science https://youtu.be/XTSNznidJvU

Revision site with a huge catalogue of videos covering the GCSE specification. https://student.craigndave.org/