/Computing@Balcarras_

SUBJECT	YEAR	TERM
A-Level Computer Science (OCR)	**12**	**1**

UNIT

Basic Data Structures

INTENT

PRIOR LEARNING (TOPIC) – GCSE Programming Units

Once pupils are starting to get more confident with programming, we can introduce a set of more advanced units. The first of which looks at what we can consider basic data structures. This includes studying structures such as arrays, tuples, stacks and queues.

Specification Points:
This unit covers points 1.4.2 and 2.3.1.b

FUTURE LEARNING (TOPIC): Advanced Data Structures and Programming Project

IMPLEMENTATION

Throughout the unit pupils will cover:

- Core data structures such as arrays, tuples and records.
- Handling data structures in multiple dimensions.
- How to create and use stack and queue data structures, including knowing the algorithms for common behaviours.

IMPACT

Assessment: Pupils will sit a 40 mark in-lesson assessment at the end of the unit, the score from which will be translated into an A* to E style grading.

In addition to this, pupils will complete regular exam style questions both during lesson and as part of homework tasks.

HOW CAN PARENTS HELP AT HOME?

All course materials are available via Firefly. In the build-up to the assessment, parents can help by supporting their child's revision. This can include testing them using flash cards or simply getting them to explain topics to you.

HELPFUL READING/FURTHER DISCUSSION

READING/EXTRA-LEARNING
There are an enormous number of online courses and tutorials to help pupils develop their computer science skills further.

Visit the Next Steps section of the Computing department's Firefly page for more details.

CAREERS
The skills / knowledge learnt in this unit lead perfectly into a wide range of careers including software development.

WIDER SKILLS
Digital Literacy
Problem Solving
Resilience

VOCABULARY
Array, Tuple, Record, Stack, Queue, LIFO, FIFO, Circular, Priority, Push, Pop, Enqueue, Dequeue, Dimensions, Mutable, Immutable, Homogeneous, Heterogeneous, Dynamic, Static.