Year 11 Spring

LEARNING JOURNEY COMPUTER SCIENCE

JOURNEY TO THE SPRING TERM EXAM – PAPER 1

WE ARE HERE

Computer Systems

How common characteristics of computers affect their performance (clock speed, cache size, number of cores)

The FDE cycle

Characteristics of secondary storage

Memory (RAM and ROM)

Binary to denary, including binary shifts

How characters are represented in computer systems

How sound is represented in computer systems

Network protocols, topologies and layers

Network threats and defences

Networks and the Cloud

Utility software including defragmentation

Computing legislation

TRIAL EXAM

The learning journey you will follow here isn't so much about subject *content*, but about metacognition; reflecting on how you learn and considering ways to improve. With a focus on exam questions, you will learn how to *refine* your responses in order to abstract any unnecessary detail, and also use *precision* to ensure you have utilised appropriate *technical terminology* and referred to the context of the question. You will also learn how to evaluate the different uses of technology to arrive at considered conclusions, and in doing so, demonstrate the mastery required in order to answer extended questions.

TUDOR HABITS
You will develop grit and resilience as you develop critical thinking and metacognitive skills on this learning journey.

VOCABULARY: state, explain, describe, discuss, analyse, knowledge and understanding, application, evaluation

Year 11 Spring

LEARNING JOURNEY COMPUTER SCIENCE

JOURNEY TO THE SPRING TERM EXAM – PAPER 2

READING ALGORITHMS

WE ARE HERE

- Input and output
- Variables and data types
- Tracing flowcharts
- Sequence selection and iteration
- Tracing pseudocode
- Identifying problems and errors in pseudocode
- Explaining standard algorithms (linear and binary search)
- Explaining standard algorithms (bubble and merge sort)

WRITING ALGORITHMS

- Incrementing variables
- Simple algorithms with if statements
- Writing pseudocode from flowcharts
- Simple input, process, output in pseudocode
- Changing pseudocode to include iteration/validation
- Functions
- Writing full algorithms
- SQL

The learning journey you will follow here isn't so much about subject *content*, but about metacognition; reflecting on how you learn and considering ways to improve. With a focus on exam questions, you will learn how to *refine* your responses in order to abstract any unnecessary detail, and also use *precision* to ensure you have utilised appropriate *technical terminology* and referred to the context of the question. You will also learn how to evaluate the different uses of technology to arrive at considered conclusions, and in doing so, demonstrate the mastery required in order to answer extended questions.

TUDOR HABITS

You will develop grit and resilience as you develop critical thinking and metacognitive skills on this learning journey.

VOCABULARY: state, explain, describe, discuss, analyse, knowledge and understanding, application, evaluation