COMPUTING YEAR PLANNER (LTP) – YEAR 12 Comp Sci

Term	Module Title	Learning Content / Skills	Assessment Schedule*	Home Learning Support
Autumn 1	Unit 03 – Data Representation Unit 01 – Fundamentals of programming T1 - 4	Unit 03 covers the first part of learning needed for Paper 02. It is covered at the start of the year due to it's importance not only in paper 02 but the reliance on data representation throughout programming and the subsequent programming practice needed for paper 01. - Number systems - Bits, bytes and binary - Binary Arithmetic - Representing Images - Representing Sound - Data Compression Unit 01 covers the fundamentals of programming within the C# language. This is the main topic used throughout paper 01 and will teach pupils the programming language to use in this exam. - Programming Basics - Selection - Iteration - Arrays	Formative – Assessment of classroom work. Worksheets in these units can take up to 2 lessons to complete. These worksheets are marked in class after completion to instantly allow students to reflect on the tasks. This helps to clear misconceptions in how certain mathematical functions should be executed before the student continues any bad habits or mistakes at home. An overall summative assessment will take place at the end of unit 03. This will be graded U – A* Reflection time will be given to students to work on their targets which will allow for an improvements in their grades on work which has already been marked. Students that fail to meet their targets through the end of unit	Each topic within data representation allows the student to practice at home by including extra work sheets along with answers Unit 01 also contains theoretical work to complete at home but there is a much heavier reliance on setting programming practice and tutorials.

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			assessment will be able to study further using their feedback and retake a similar assessment to be organised around their available time.	
Autumn 2	Unit 01 Fundamentals of programming T5 & 6 Unit 02 – Problem solving Preliminary material	Unit 01 covers the fundamentals of programming within the C# language. This is the main topic used throughout paper 01 and will teach pupils the programming language to use in this exam. - Subroutines - Files and Exceptions Unit 02 tasks the students with being able to take problems, and apply either pre-determined algorithms to them or create and apply their own. This then leads to the creation of pseudo-code and then code. Depending on the problem and methodology used the outcomes can vary wildly. - Computational thinking - Structured Programming - Writing and interpreting algorithms - Testing - Abstraction & automation - Finite state machines	Formative – Assessment of classroom work. Worksheets in these units can take up to 2 lessons to complete. These worksheets are marked in class after completion to instantly allow students to reflect on the tasks. This helps to clear misconceptions in how certain mathematical functions should be executed before the student continues any bad habits or mistakes at home. An overall summative assessment will take place at the end of unit 01 & at the end of unit 02. These will be graded U – A* Reflection time will be given to students to work on their targets which will allow for an improvements in their grades on	Unit 01 contains theoretical work to complete at home but there is a much heavier reliance on setting programming practice and tutorials. Unit 02 contains, much like 01, home programming tasks. This part however relies more on setting a problem which can then be solved instead of the need to test a specific method or function. Students will begin, using an online platform, to work together to prepare for their paper 1 PPE.

		Students are given the preliminary material to be used in their post-Christmas exam (decided to be after the Christmas holiday and discussed with head of sixth form '17) and also their end of the year exams. The preliminary material will take up lesson time as pupils and teacher work together to understand the structure of the material and pre-empt the questions that will be asked. The material consists of a procedural C# program (Warships) and a booklet of information.	work which has already been marked. Students that fail to meet their targets through the end of unit assessment will be able to study further using their feedback and retake a similar assessment to be organised around their available time.	
Spring 1	PPE Unit 04 Hardware and Logic	Students will sit their PPE upon return from the Christmas holiday. Unit 04 is the second unit to be assessed in paper 02. It covers a wide range of topics, all theoretical. Some topics will need more time and practice such as Boolean algebra. Due to it's difficulty Boolean algebra will be revisited at the start of most lessons throughout even unit 05. - Hardware & software - Operating Systems - Language classification - Language translation - Logic gates - Boolean algebra	PPE – Marked according to school guidelines and feedback given in line with all Y12 subjects. Formative – Assessment of classroom work. Worksheets in these units can take up to 2 lessons to complete. These worksheets are marked in class after completion to instantly allow students to reflect on the tasks. This helps to clear misconceptions in how certain mathematical functions should be executed before the student continues any bad habits or mistakes at home.	Each topic within hardware and logic allows the student to practice at home by including extra work sheets along with answers

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			An overall summative assessment will take place at the end of unit 04. These will be graded U – A* Reflection time will be given to students to work on their targets which will allow for an improvements in their grades on work which has already been marked. Students that fail to meet their targets through the end of unit assessment will be able to study further using their feedback and retake a similar assessment to be organised around their available time.	
Spring 2	Unit 05 Organisation and architecture Unit 06 Communication	Unit 05 is the third unit to be assessed in paper 02. It covers a wide range of topics, all theoretical. A lot of the topics in unit 5 build upon what is learnt in unit 04. - Internal Architecture - The processor - Instruction Set - Assembly Language - Output	Formative – Assessment of classroom work. Worksheets in these units can take up to 2 lessons to complete. These worksheets are marked in class after completion to instantly allow students to reflect on the tasks. This helps to clear misconceptions in how certain mathematical	Each topic within Organisation and architecture allows the student to practice at home by including extra work sheets along with answers

		- Storage	functions should be executed before the student continues any bad habits or mistakes at home.	
		Unit 06 is the fourth and final unit to be assessed in paper 02. It covers a wide range of topics, all theoretical. The unit is mostly a stand alone with only a little bearing on other units however some topics may be of particular interest to some students and may influence their decisions to complete a hardware or research task for their Y13 NEA. - Methods - Topology - C2S & P2P - Wireless Networking - Privacy - S.C.L Issues	An overall summative assessment will take place at the end of unit 05 and Unit 06. These will be graded U – A* Reflection time will be given to students to work on their targets which will allow for an improvements in their grades on work which has already been marked. Students that fail to meet their targets through the end of unit assessment will be able to study further using their feedback and retake a similar assessment to be organised around their available time.	
Summer 1 & 2	Preliminary prep for paper 01 and topic tests for paper 02.	Some work may still need to be done on certain areas covered earlier in the year depending on how close to the LTP has been stuck to.	PPE – Marked according to school guidelines and feedback given in line with all Y12 subjects. NEA Marking and feedback.	Students will complete ZIGZAG topic tests both in lesson and at home.

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	NEA	Students will begin again heavily programming and be under time constraints in order to simulate the paper 01 exam. Along with programming practice pupils will undertake revision sessions based on performance of previous units. Depending on the class certain topics may need to be looked at again in detail. Once the students have completed their PPE's and returned to regular school timetables they will begin planning for their NEA. Some topics must be pulled out of several units in Y13 and covered now to allow students to begin work on this over the summer. - OOP - Abstract Data Structures - SQL, PHP and Databases	Topic Tests.	They will be provided with workbooks to facilitate this along with answers to problems to allow for self marking and instant feedback.