COMPUTING YEAR PLANNER (LTP) – YEAR 13 Comp Sci

Term	Module Title	Learning Content / Skills	Assessment Schedule*	Home Learning Support
Autumn 1	NEA	Building off of the end of year 12, year 13 will start with pupils working on their NEA. The NEA is an independent project that covers different parts of the systems development lifecycle; - Analysis - Design - Technical Solution - Testing - Evaluation During this time students will work on creating their analysis and design sections under the guidance of the classroom teacher. They then may start to build their program, most NEA's are built at home with some work such as subroutine based modules or class creation happening at school due to hardware constraints and network issues not allowing pupils to fully develop their intended project.	Each chapter of the NEA (excluding technical solution) is marked using the approved mark grid following the school guidelines. This is redone or improved and handed back and marked once again. If no drastic changes still need to happen then a third marking will occur with the full project hand in later in the year. If drastic changes still must be made the pupil will be spoken to as they have either misunderstood their feedback or have chosen not to act upon it.	Most NEA's are built at home with some work such as subroutine based modules or class creation happening at school due to hardware constraints and network issues not allowing pupils to fully develop their intended project.
	Unit 11 Database	Unit 11 is taught alongside the NEA as it is vital to many NEA projects. - ERM	Formative – Assessment of classroom work. Worksheets in these units can take up to 2 lessons to complete. These	Each topic within Databases allows the student to practice at home by including extra work sheets along with answers

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		- Relational Databases - SQL - Systematic approach to problem solving	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.	
Autumn 2	Preliminary material Unit 07 – Data structures	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 and a booklet of information. Unit 07 contains information on advanced and abstract data structures, this will have been covered at the end of year 12 as some of these structures are vital to scoring well in the NEA however these should be taught pertaining to the preliminary material and further development (algorithmic design). - Queues	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 07 & at the end of unit 12. These will be graded U – A* Reflection time will be given to students to work on their targets	Unit 07 contains, 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.

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	Unit 12 – OOP pt 01	- Lists - Stacks - Hash Tables - Graphs - Trees - Vectors The first half of unit 12 will help pupils develop their understanding of OOP. This will be needed in both the paper 01 and paper 02 exams. - Basic Concepts - Design Principles	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 1	PPE Unit 08 Algorithms NEA	Unit 08 covers topics needed for sitting both the paper 01 exam and the paper 02 theory exam. - Recursive Algorithms - Big-O Notation - Searching and Sorting - Graph Traversal - Optimisation - The limits of computation Toward the end of this half term students should be coming to the end of their NEA development.	PPE – Marked according to school guidelines and feedback given in line with all Y13 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 Algorithms 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 08. 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 09 Regular Languages	Unit 09 contains topics that may show up in paper 01 to be practiced or paper 02 in a theoretical manner. - Mealey Machines - Sets - Regular Expressions - Turing Machines - BNF	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 both units allow the student to practice at home by including extra work sheets along with answers

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	Unit 12 OOP and Functional programming pt 2	- RPN The second half of unit 12 covers the following topics and should contain some programming in Haskell. - Functional Programming - Function Application - Lists - Big Data	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 09 and Unit 12. 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	Unit 10 The internet	Unit 10 focuses solely on paper 02 - Structure - PS and Routers - Security - TCP/IP	An overall summative assessment will take place at the end of unit 10. These will be graded U – A* NEA Marking and feedback.	Students will complete ZIGZAG topic tests both in lesson and at home.

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	Preliminary prep Revision	- IP Addresses - CSM Students will need to spend more time with the class teacher breaking down the preliminary material.	Topic Tests. End of year assessments	They will be provided with workbooks to facilitate this along with answers to problems to allow for self marking and instant feedback.