

Computer Science Year 11 Long Term Plan

Rationale (with end points): Understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation. Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs. Think creatively, innovatively, analytically, logically and critically. Understand the components that make up digital systems, and how they communicate with one another and with other systems. Understand the impacts of digital technology to the individual and to wider society. Apply mathematical skills relevant to Computer Science.

Term	Topic	Knowledge	Skills	Reading /wider reading
Autumn term 1	2.1, 2.2	SLR 2.2 Programming fundamentals 9 Lessons SLR 2.1 Algorithms 5 Lessons Plus 3 paper 2 exam revision lessons	SLR 2.2 Student workbook SLR 2.2 End of topic test	The evolution of hardware over the last 50 years https://www.computerhistory.org/timeline/computers/ Big data and invasion of privacy
Autumn 2	2.1	SLR 2.1 Algorithms 13 Lessons Plus 7 paper 2 exam revision lessons	SLR 2.1 Student workbook SLR 2.1 End of topic test	https://venturi-group.com/is-big-data-a-good-thing-or-a-n-invasion-of-privacy/
Spring 1	2.3	SLR 2.3 Producing robust programs 8 Lessons Plus 7 paper 2 exam revision lessons	SLR 2.3 Student workbook SLR 2.3 End of topic test	What is intelligence? Can it be mimicked by a machine? https://towardsdatascience.com/artificial-intelligence-can-never-be-truly-intelligent-227fe9149b65
Spring 2	2.4, 2.5	SLR 2.4 Boolean logic 3 Lessons SLR 2.5 Programming languages and IDEs 4 Lessons Plus 4 paper 2 exam revision lessons	SLR 2.4 Student workbook SLR 2.4 End of topic test SLR 2.5 Student workbook SLR 2.6 End of topic test	How binary made possible modern computers https://www.howtogeek.com/367621/what-is-binary-and-why-do-computers-use-it/
Summer 1	ALL	Revision Topics		Disasters caused by errors in algorithms https://raygun.com/blog/costly-software-errors-history/
Summer 2				

