Welcome to Computer Science

Welcome and congratulations on joining a popular and much sort after A Level subject at Maiden Erlegh School.

We are very fortunate that the type of student that takes A Level Computer Science has an inquisitive mind and is a logical thinker. They benefit from having a mature attitude, working hard and a determination to showcase their very best work. The department has two A levels specialist teachers who will help and guide you along the way. We encourage you to work hard and try your best, be organised and seek support from us when you need it.

In year 12, you will have two teachers, Miss Brooke and Mrs Blight, who will share the teaching of the course between them. Both teachers are specialists in their field and have a wealth of experience in industry that they will integrate into the lessons.

Below you will find the textbooks we recommend you buy and the tasks you are asked to complete over summer and bring to our first lesson in September. Please try to get as many done as possible as it will definitely help you as we proceed through the next two years.

If you have any questions or worries then please email us on f.brooke@maidenerleghtrust.org or s.blight@maideneleghtrust.org or message us on the Year 12 September 2021 Google Classroom that you should join (code: p6gwzah)

We are really looking forward to seeing you in September and getting on with starting your A Level Computer Science journey! :)

Miss Brooke – Head of Computing

At Maiden Erlegh, we follow the AQA specification for Computer Science:

https://www.aqa.org.uk/subjects/computer-science-and-it/as-and-a-level/computer-science-7516-7517

We will be using C# as our programming language.

A recommended book that covers the theory for the course:

· https://www.amazon.co.uk/AQA-AS-Level-Computer-Science/dp/1910523070

There is a wealth of useful transition materials that you can familiarise yourself with on the following website:

https://isaaccomputerscience.org/pages/gcse_to_a_level_boosters_july2021

Summer Project

This summer, we'd like you to develop your understanding of and interest in Computer Science by learning something new about it. This could be something practical, e.g. experimenting with a new programming language or taking your Python skills further, or maybe even building your own PC. Alternatively, you may take an interest in a more theoretical or historical aspect of Computer Science and do some research around this. What you do is up to you – the only requirement is that I'd like you to prepare a 10-minute presentation on it to share with the class in September. The list of resources below may help you, but you are by no means restricted to these! There is absolutely no need to spend money on this if you don't want to – the majority of the resources listed below are freely available online. Good luck, and have fun! There are also some great films to watch.

Films	Hidden Figures The Imitation Game Ready Player One Hackers
Books	Computational Fairy Tales – Jeremy Kubica Brown Dogs and Barbers: What's Computer Science All About? – Karl Beecher The Code Book: The Secrets Behind Codebreaking - Simon Singh, ISBN-10: 0385730624 How to Think Like a Computer Scientist - Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers http://openbookproject.net/thinkcs/python/english3e/ But How Do It Know? - The Basic Principles of Computers for Everyone – J Clark Scott

Magazines and Journals	Computer - https://www.computer.org/computer-magazine/ CS4FN - http://www.cs4fn.org/lastonein/lastonein.php magPi - https://www.raspberrypi.org/magpi/
Places of Interest	**The National Museum of Computing** - http://www.tnmoc.org/ Why not take a virtual tour: https://www.tnmoc.org/news-releases/2017/6/6/3d-virtual-tour-now-online?rq=virtual **Bletchley Park** - https://bletchleypark.org.uk/ You could look at their youtube chanel to find out more about the home of the codebreakers: https://www.youtube.com/BletchleyParkTrust **The UK Computer Museum**, Cambridge http://www.computinghistory.org.uk/ Follow them on social media – links on the website.
Websites	Isaac Computer Science – GCSE to A-level Transition https://isaaccomputerscience.org/topics W3schools – C# Tutorial https://www.w3schools.com/cs/index.php https://brilliant.org/computer-science/computer-science/ Think Like a Computer Scientist - http://www.openbookproject.net/thinkcs/python/english2e/index.html# Program Arcade Games - http://programarcadegames.com/ CodeAcademy https://www.codecademy.com/learn
YouTube Channels	Craig & Dave - https://www.youtube.com/channel/UC0HzEBLlJxlrwBAHJ5S9JQg/playlists?shelf_id=10&sort=dd&view=50 Computerphile - https://www.youtube.com/user/Computerphile/videos?view=0&sort=dd&flow=grid Introduction to Computer Science I", Harvard OpenCourseWare - https://www.youtube.com/watch?v=z-OxzIC6pic&list=PLvJoKWRPIu8G6Si7LlvmBPA5rOJ9BA29R
MOOCs	Introduction to Computer Science https://www.edx.org/course/introduction-computer-science-harvardx-cs50x

News Articles	BBC Click - http://www.bbc.co.uk/programmes/n13xtmd5
	MIT News - http://news.mit.edu/topic/computers
	Phys.org - https://phys.org/technology-news/computer-sciences/
Podcasts/Radio	Wired - http://www.wired.co.uk/series/wired-podcast
	BBC Tech Tent - http://www.bbc.co.uk/programmes/p01plr2p/episodes/downloads
	BBC – Computing Britain http://www.bbc.co.uk/programmes/b06bq6j1/episodes/downloads
TED Talks	20 Must See TED Talks for Computer Scientists - https://www.youtube.com/watch?v=EF692dBzWAs&list=PLF7032F8EB1A4F9E2