

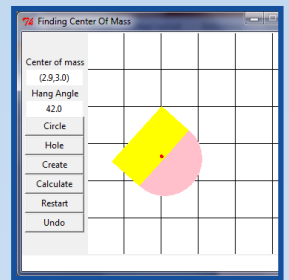
Computer Science

Welcome to Computer Science, here is some great opportunities to get ahead on our course:

DO: Theory

Create an account with Isaac: <https://isaacomputerscience.org/>
There is a section under – Topics – Theory GCSE to A level transition.

It would be great to work through some of these sections in preparation.



If you did not take the GCSE then it would be beneficial to take a look at these Craig N Dave videos which cover the content of the course – if you can work through these then you will have an oversight of the content that most students will have covered at GCSE:

https://www.youtube.com/playlist?list=PLCiOXwirraUB8P4vtTMF0R_OzwMjuagei

CyberSchool – learn ethical hacking techniques

<https://cyber-school.joincyberdiscovery.com/>



DO: Programming

For programming we will be using Python. You need to install an interface on your computer to program in. In school we use:

<https://www.python.org/downloads/>

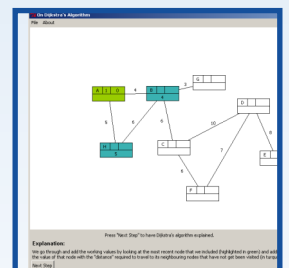
These websites provide useful tutorials and exercises – have a look and find one that you like the style of and improve your programming skills.

<https://www.w3schools.com/python/default.asp>

<https://www.learnpython.org/>

https://snakify.org/en/lessons/print_input_numbers/

<https://www.sololearn.com/Course/Python/>



Watch this video about OOP: <https://youtu.be/pTB0EiLXUC8>

Sign up to Futurelearn - This course would be really useful to complete prior to starting the course (if you have a secure knowledge of Python)

<https://www.futurelearn.com/courses/object-oriented-principles>

A	B	C	D	Result
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
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1	1	0	0	1
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Computer Science

Whether it's e-commerce, new developments and products, or gadgets and games, BBC Click looks at the tools that will revolutionise business and personal life in the future.

This is a really useful website for staying up to date with current technological news and support you in the A level topic concerning ethics, morals, legal and cultural issues surrounding computer science.

Video: [BBC click review of 2019](#)

This includes space travel, electric cars, 5G and the increased use by police of facial recognition.

<https://www.bbc.co.uk/iplayer/episode/m000d45t/click-best-of-2019>

Video: [Artificial Intelligence \(AI\) and Coronavirus](#)

The following video looks at how AI tools could help track the virus spread and find new treatments.

<https://www.bbc.co.uk/iplayer/episode/m000g8w5/click-can-ai-help-fight-coronavirus>

Video: "Why study computer science!"

When you start a course it is useful to have a good idea of why it is you have chosen to study it. It helps you have more focus and will help you to pinpoint more specific areas that you are interested in.

<https://youtu.be/t3Y4p-6YWnQ>

READ:

Read/learn—You can use the full BBC Bitesize AQA GCSE course (read and do the tests) to recap your knowledge to prepare you for A level computer science.

<https://www.bbc.co.uk/bitesize/examspecs/zkwsjvh>

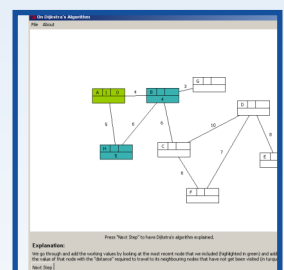
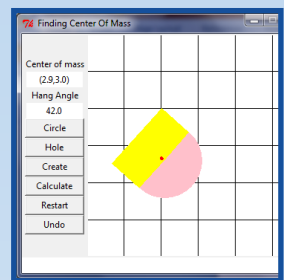
Read/puzzles —CS4FN (Computer Science for Fun) is a magazine on computer science aimed at school students "Explore how computer science is also about people, solving puzzles, creativity, changing the future and, most of all, having fun." It is printed twice a year and has an associated website with additional articles.

<http://www.cs4fn.org>

News—Wired. The essential source of information and ideas that make sense of a world in constant transformation. The WIRED conversation illuminates how technology is changing every aspect of our lives—from culture to business, science to design.

<https://www.wired.com/tag/computer-science/>

The Alan Turing Institute—"We believe data science and artificial intelligence will change the world." <https://www.turing.ac.uk>



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SWCHS Sixth Form