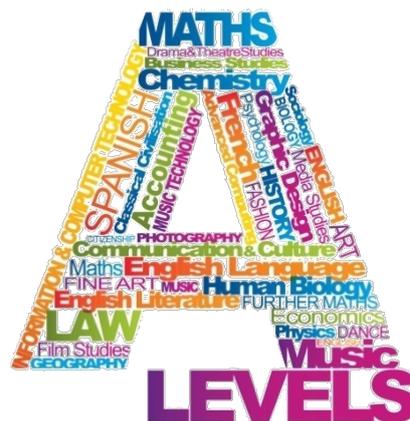


GCSE to A LEVEL Transition Project



Name:

Subject: A Level Computer Science

The purpose of this A Level Transition project is to introduce you to studying this subject at A Level standard. You will need to complete 10 hours of study on each subject every week, 4½ in class with your teacher and the rest as independent learning. Therefore, it is important that you enjoy this subject and that you start to practice your study skills as early as possible. Some subjects have significant maths content (for example business, psychology, economics); others require strong essay writing skills (for example history, English). Think about the study skills and underpinning knowledge you will require in this subject - not just the title.

If after completing this project you think this may not be your ideal choice, you can ask to transfer to another subject at the start of term, as long as you have the entry requirements and it fits alongside your other choices on the A Level Matrix (timetable). If you do decide to change subject, you will be required to complete the transition project for your new choice too.

This is also your first taste of Flipped Learning and elements will be used within your first week of lessons.

Please ensure your name, student number and subject are clearly noted on each page and bring it with you to hand in at Enrolment.

We hope you enjoy this project as you start your A Level journey.

Have a good summer and we look forward to seeing you in September.



Computer Science

GCSE to A Level transition

2019-20

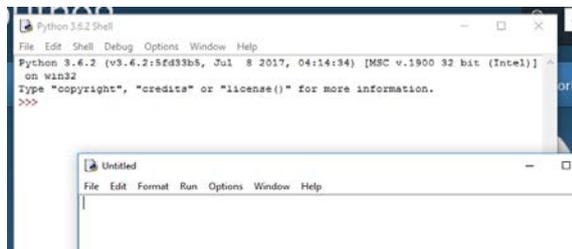
In the AS Computer Science course you will learn methods of representing information (data) that will enable you to model and solve problems. An important tool in being able to do this is knowing how to write computer programs. The teaching language used for AS Computer Science at Chichester College is Python so it is important to have a good grasp of this before you start the course.

How to get Python on my computer

You should use the latest version of Python Version 3. Python Version 2 has different syntax and is not object based, so please do not use that. Head to <https://www.python.org/downloads/> and click on the orange download button:



You will download Python and also the IDLE environment.



You can run Python code directly in the IDLE environment to choose File|New to create a file in which to save your scripts. Python IDLE will be useful to try out scripts that you develop.

Learning Python

There are lots of free online tutorials available to use: there is no need to make a purchase. Go to <https://www.learnpython.org/>

Work through the following modules from the website:

Table of Contents

Learn the Basics

- [Hello, World!](#)
- [Variables and Types](#)
- [Lists](#)
- [Basic Operators](#)
- [String Formatting](#)
- [Basic String Operations](#)
- [Conditions](#)
- [Loops](#)
- [Functions](#)
- [Classes and Objects](#)
- [Dictionaries](#)
- [Modules and Packages](#)

The course provides an online learning environment but you should use your own IDLE environment to keep copies of the correct code you have written so you can refer to it in the task (below). When using this tutorial it may be that you receive some in-app purchase invitations. It is not necessary to buy anything in order to acquire the skills you need – you need to **spend** some time on this, not money.

Task 1

Create a wiki that would be suitable for interested younger teenagers to learn Python: you can also use this as a reference place for yourself as you develop your skills. Your wiki should have at least 12 different pages (hint: how many items are in the list above?).

Make sure you publish your site and make it public so that it can be viewed. To submit Task one, submit your URL (www. Link) so your teacher can access it.

Task 2

<https://www.theguardian.com/cities/2016/sep/20/automated-city-robots-run-public-services-councils>

<https://www.microsoft.com/en-gb/internet-of-things/smart-city>

Using the above resources write a short essay (600 – 800 words) in which you explain what a smart city is giving examples of cities that could be considered 'smart'. Discuss advantages and disadvantages of living in a smart city.

Submit your work

These tasks are your first Flipped Learning Activities and will be used in your first week of lessons.

Submit work at Enrolment. For Task 1 you should submit the url (www. Link) so your teacher can access it.