Year 11 to Lower 6th Transition
Computer Science

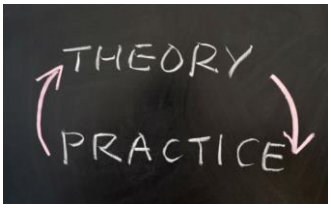
Overview

The course is split into 3 sections; Theory, Programming and Problem Solving. It requires you to have strong problem solving skills, a logical mind, a genuine interest in computer programming and a willingness to learn and practise skills independently. With this in mind it's important to get ahead of the game, ready for next year.

Theory

A really good starting point is Isaacs Computing. You will need to sign up to the site using a Google login.

At the end of each topic you will be asked a series of questions, This will allow you to check your understanding.



Data: https://isaaccomputerscience.org/topics/gcse_data_representation

Networking: https://isaaccomputerscience.org/topics/gcse_networking

Systems: https://isaaccomputerscience.org/topics/gcse_systems

Boolean Logic: https://isaaccomputerscience.org/topics/gcse_boolean_logic

Programming Concepts: https://isaaccomputerscience.org/topics/gcse_programming_concepts

If you find these too easy, then of course you can move on and access the full A level course. However, it is imperative that you understand the fundamentals first.

Programming

The programming language of choice at A level is Java. This is likely to be new to most of you and again, the basics and fundamentals are very important.

A good starting point to begin programming in Java is https://www.codecademy.com/courses/learn-java/lessons/hello-world-java/exercises/introduction-to-java

It's really important that you enter the course with confidence. Having a good grasp on how to programme using Java will definitely help.

Similar sign up process, you will need to sign up using your Google login. You can personalise your learning experience by answering some basic questions at the start of the course.

Problem Solving

Another aspect of computing is being able to problem solve and think logically.

Each year Oxford University releases a series of Computational Thinking problems. These are great for focusing the brain and thinking logically to solve complex problems.

No sign in required for this one. https://challenge.bebras.uk/index.php?action=user_competitions
I would recommend at least starting at the senior level, and trying to progress to the elite level.

A questions are easier than B, and B questions are easier than C.

There is also the Bebras App you can play on their phones, all about problem solving.
https://play.google.com/store/apps/details?id=nl.eljakim.bebrasappuk&pcampaignid=MKT-Other-global-all-co-prtnr-py-PartBadge-Mar2515-1

You may also like to try your hand at solving these problems.

https://www.checkmyworking.com/2011/12/solving-the-princess-on-a-graph-puzzle/

These are similar to the ones you will be asked in your exam, so it's worth getting some practice in now.