



## Poole High School Sixth Form

### A Level Computer Science - Transition Courses

#### 1. The Welcome Questionnaire

Please complete the welcome questionnaire before you begin the other tasks.

<https://forms.gle/gU1wXhB7ejthCFoG7>

#### 2. Visual Studio and CS Learning Journey

##### **PART A**

Computer programming in C# is an essential part of the course. You must be a comfortable C# programmer to succeed with A-Level Computer Science. We will teach you the skills and techniques as part of your course, however it will be on you to practice and hone your skills.

##### **TASK**

1. Download and Install Microsoft Visual Studio Community 2022 (C#) on to your home computer. You can get this for free from <https://visualstudio.microsoft.com/vs/>
2. Make a visual studio account and keep your username and password safe. You will need this username and password to use the software in school.
3. Create a new console application in C# which displays "Hello my name is ...." on to the console window (hint: The code will be the same as VB.NET with a ; at the end of the line)

##### **EVIDENCE TO SUBMIT**

Upload a screenshot of your computer program and code

##### **PART B**

Complete the basic or the more advanced C# programming courses below, based on your experience of, and confidence in, C#:

Basic programming in C#:

C# Introduction - <https://www.codecademy.com/learn/learn-c-sharp-introduction>

C# Basics - <https://www.codecademy.com/learn/learn-c-sharp>

C# Methods - <https://www.codecademy.com/learn/learn-c-sharp-methods>

C# Arrays and loops - <https://www.codecademy.com/learn/learn-c-sharp-arrays-and-loops>

The course below is not part of the A Level, but may be of use as well:

Digital Skills for Work and Life - <https://www.futurelearn.com/courses/digital-skills-for-work-and-life>

##### **EVIDENCE TO SUBMIT**

Upload a screenshot of your certificate from Coursera

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### 3. Preparatory Reading

The reading below is there to help you understand some of the complicated topics which will make up the A Level course. As well as your programming skills you will need a deeper understanding of how computers work, communicate, and represent data.

The following YouTube channels are excellent for our course (Craig 'n' Dave have the entire AQA specification in short videos):

<https://www.youtube.com/@craigndave>

<https://www.youtube.com/@Computerphile>

The following website is another excellent resource - they also have free online courses which will help with your understanding of key topics. The first theory topic is Data Representation - section 4.5 on the specification: [https://isaacomputerscience.org/topics/a\\_level?examBoard=all&stage=all#aqa](https://isaacomputerscience.org/topics/a_level?examBoard=all&stage=all#aqa)

The following books will also help you get a more rounded view of the subject:

- Code: The Hidden Language of Computer Hardware and Software (Charles Petzold)
- Algorithms to Live By: The Computer Science of Human Decisions (Brian Christian and Tom Griffiths)
- The Pattern on the Stone: The Simple Ideas That Make Computers Work (W. Daniel Hills)
- But How Do It Know? The Basic Principles of Computers for Everyone (J. Clark Scott)