# computer science

A Level Preparation Pack

## Overview 🔍

The Business, Computer Science and IT department at the College is looking forward to welcoming you in September. We have a very experienced team of 9 teachers who are not only specialists in their subject areas but are here to share their enthusiasm with you. To help you with the step up to sixth form, we have put together a range of resources for you to have a look at over the next couple of months. This will give you a solid foundation so when you arrive here you will feel confident that you have chosen a subject that you are going to enjoy.

**Trish Lewis**
Head of Computer Science

## Online Courses 🌐

- **Introduction to Web Development -** https://www.futurelearn.com/courses/introduction-to-web-development

- **Learn to Code for the Web** - https://www.futurelearn.com/courses/learn-to-code-for-the-web

- **Introduction to Encryption and Cryptography** - https://www.futurelearn.com/courses/encryption-and-cryptography

- **Craigndave** – A level Computer Science based resource with lots of videos to support what you do in the classroom - https://www.youtube.com/channel/UC0HzEBLlJxlrwBAHJ5S9JQg

- **IsaacComputer-** A level Computer Science based resources (OCR is our examboard): https://isaaccomputerscience.org/topics

## Activities ✏️

**Activity 1**

*Computer Science A Level - Coding with Visual Basic: Visual Studio IDE 2019 (in case you would like to be brave)*

1. Install Visual Studio 2019 Community (free) edition: you can find it here - https://visualstudio.microsoft.com/downloads/ or here: https://docs.microsoft.com/en-us/visualstudio/install/install-visual-studio?view=vs-2019

2. Helpful Youtube video How to Download and Install Visual Studio 2019:
 https://www.youtube.com/watch?v=FBo5Cso-ufE

3. Helpful video on Youtube for "Hello World", first program in Visual Basic

https://www.youtube.com/watch?v=1mg3NHwGkas&list=PLC601DEA22187BBF1&index=4

The Sixth Form College Birkenhead

**Activity 2**

Being safe online is an important skill to have. Go to the following website https://www.pbs.org/wgbh/nova/labs/lab/cyber/

In this lab, you'll defend a company that is the target of sophisticated cyber attackers. Your task is to strengthen your cyber defenses and thwart the attackers by completing a series of cybersecurity challenges. You'll crack passwords, craft code, and defeat malicious hackers.

## Suggested Reading & Podcasts 📖

- **BBC Tech News** - https://www.bbc.co.uk/news/technology
- **GamesRadar+** - https://www.gamesradar.com/uk/
- **Wireframe Magazine** - https://wireframe.raspberrypi.org/ all issues available as free PDF downloads
- **The Chocolate Turing Machine -** https://teachinglondoncomputing.org/turingmachine/

**Useful Textbooks**

**OCR AS and A Level Computer Science** Paperback: available on Amazon

- *This is a fantastic book and if you can get hold a copy before you start the course, you will find it is a great help to you throughout the 2 years.*

**My Revision Notes OCR A level Computer Science** Paperback: also on Amazon

**Visual Basic in easy steps, 6th edition:** Updated for Visual Basic 2019 Paperback

- *This is a useful book which will take you through the basics of visual basic. We have limited copies of this in College.*

## TV & Film 📺

You should watch any of these films and see how they have used computers and consider the effect on society.

- The Great Hack (Netflix Movie)
- The Social Network
- The Imitation Game
- The Matrix
- Tron and Tron Legacy
- War Games

**TV**

It is important as a Computer Science student to keep up to date with the latest technology so we advise you to look at the following

- BBC Click (weekly on iPlayer https://www.bbc.co.uk/iplayer/episodes/b006m9ry/click)
- The World According to Jeff Goldblum
- The IT Crowd (TV Comedy Gold!)

## Course Specifications ⬇

*A Level - Download OCR Computer Science Specification*