Computer Science

1. **Information about the course:**
   WG6 Students are completing the 2-year OCR Computer Science A-level course and this will be taught across the two schools (WGSB and WGSG). Students will have one Computer Science Teacher at each site. Students will be completing two examined units and one unit of controlled assessment in Year 13. WGSB and WGSG will each teach one unit and these will be taught concurrently. Your WGSB teacher will also complete the Controlled Assessment with you in Year 13. Both the examination units are worth 80% of the overall mark (40% each) for the A level and the controlled assessment is worth 20%.

2. **Expectations for Success are:**

- Due to the high amount of technical Computing-based theory being completed concurrently students will need to be able to manage their time and allocate equal amounts of independent study time to each unit.
- Students will need to be able to manage their time whilst completing their Controlled Assessment task in Year 13. This will be done independently with guidance from your teacher.
- Students will need to study and revise content independently from the outset for the examination. Students who study independently for the examination throughout the year are more successful in the examination.
- Students must be resilient to problem solving in the practical programming unit. Students who are successful will encounter problems regularly but will be able to manage and overcome these independently.
- Students will be given a period of time when working on tasks in which to act on feedback and improve their work. Students must ensure that they take this opportunity in order and develop their understanding and skills. In order to do this, students will be provided with a Personalised Learning Check List (PLC) which they will regularly assess themselves against.

3. **The characteristics of an outstanding student in this subject are:**

- Highly organised and manages their time equally between the two different units of work, and in Year 13 the Controlled Assessment task.
- Is conscientious in lessons and maximises the amount of work done in each lesson.
- Always improves their work, acting on feedback provided by their teachers and seeking help where necessary.
- Always keeps to deadlines, including deadlines for improvement of work.
- Works independently throughout the year on examination theory work by using the wider reading list and resources provided to the student such as the course text book.
- Uses the unit PLCs and examination board mark schemes/specifications to help them to improve their work.

4. **Wider reading list – we want to promote literacy within sixth form:**

Computer Systems (Unit 1 Examination unit)

OCR Computing for A-Level - F453 - Advanced Computing Theory Revision Guide Paperback– ISBN 978-0957140226 - This revision guide provides extensive notes, exam questions and model answers. Despite being aimed towards the old syllabus it still includes the current topics that will be covered over the two year course.

Computer Science: An Overview by J. Glenn Brookshear- ISBN 978-0132569033. This book provides an overview of what computer science is all about: each topic is presented with its historical perspective, current state, and future potential, as well as ethical issues.

Algorithms and programming (Unit 2 Examination unit)

Computer Science For A Level- George Rouse, Jason Pitt and Sean O'Byrne- ISBN 978-1-471-83976-4. *Course text book issued to students.*

Computing Projects in Visual Basic- D.Christopher- ISBN 1-903112-33-8. This book will be useful for students as it assumes that the reader has no prior knowledge of VB.net. This book goes through programming concepts and topics which students will find useful.

http://www.tutorialspoint.com/vb.net/ VB.Net is a simple, modern, object-oriented computer programming language developed by Microsoft to combine the power of .NET Framework and the common language runtime with the productivity benefits that are the hallmark of Visual Basic. These tutorials will teach you basic VB.Net programming and will also take you through various advanced concepts related to VB.Net programming language.

https://www.thenewboston.com/videos.php?cat=39 Excellent set of online tutorials that teach you the basics as well as polymorphism and data encapsulation.
Visual Basic In Easy Steps 3rd Edition-by Mike McGrath- ISBN-10: 1840784091. Visual Basic in easy steps is written to address this market. It has an easy-to-follow style that will appeal to anyone who wants to begin Windows programming. Ideal for programmers who want to quickly learn the latest Visual Basic techniques and students who are studying computing.

5. Independent study ideas

- All students will be expected to independently study outside of lesson to reinforce and widen their learning.
- Students should use the websites and wider reading lists to read around the topics for the theory examination.
- Students must complete programming independently outside of lessons. It is important that students do this in order to maximize their programming ability for the examination and Controlled Assessment units. Resources are provided to help them to do this.