Course Title: IB Computer Science Standard Level (

AS Level equivalency: 1

How will this course be assessed? Two exams (theory and programming) and one internally assessed (but moderated) programming project and a collaborative project

Units to be covered:

Topic 1: System Fundamentals approximately 20 hours

Topic 2: Computer organization approximately 6 hours

Topic 3: Networks approximately 9 hours

Topic 4: Computational thinking, problem-solving and programming approximately 45 hours

Option D: Object Orientated Programming with Java

Internal assessment project: development of a program approximately 30 hours

Internal assessment group 4 collaborative project approximately 10

Course outline:

During Year 12, you will be working on topics 2, 4 and the programming. For the programming the language that we learn is Java. Java is an Object Oriented Program (OOP) that uses classes and objects. If you choose to study Computer programming at University, you will be expected to work with an OOP language. The elements taught through Java are the same as for any OOP language such as C#, C++ and even Python.

Later on in the year, you will learn aspects of topic 1 and 3 as well. You will start and complete your Group 4 collaborative project in term 4 and the IA project will start in term 5. You will have 2 full terms to complete the IA project. This project gives you freedom to work on any program you would like to complete, provided it is sensible and not trivial, in other words not too simple! It needs to be completed in the Java language.

In Year 13 you will finish off the IA project and complete the learning of topics 1, 3 and 4 as well as continuing to learn more about Java constructs. Then your projects will be submitted in April and you will sit two exams in May 2020.

The exam papers are 1:45 hours for paper 1 and is out of 70 marks. Paper 2 is for 1 hour and is out of 45 marks. We will do plenty of exam practice prior to any actual exams. The IA is worth up to 34 marks

Performance in the exam is graded as grade 1 to 7. In order to achieve a Pass you will need to get a grade 3, a grade 4 if you are studying additional IBs will be needed in two IB subjects to gain the Diploma

The table below is based on the grade boundaries for year 2017 which was the highest grade boundaries year for the IB.

Grade	Paper 1	Paper 2	IA project
1	Up to 11	Up to 6	Up to 5
2	12 – 22	7 - 13	6- 10
3	23 – 29	14 – 19	11 – 15
4	30 – 36	20 – 23	16 – 19
5	37 – 44	24 – 27	20 – 23
6	45 – 51	28 - 31	24 – 27
7	52 – 70	32 - 45	28 - 34

You have to pass the exam to achieve the full qualification.

Task:

An extremely important area of the IB Computer Science is learning Java.

Download Greenfoot onto your laptop or desktop – You need to be able to work on you project at home, so it is essential that you have access to a computer that will allow you to run Java https://www.greenfoot.org/download

Then work your way through the tutorials 1 to 5 https://www.greenfoot.org/doc/tut-1. Document what you have done in a PowerPoint or on word. Be prepared to use this documentation to demonstrate what you achieved on your first day.